DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
2 NAVY ANNEX
WASHINGTON, DC 20380-1775

NAVMC DIR 3500.98
C 4610

APR 03 2006

NAVMC DIRECTIVE 3500.98

Subj: AVIATION TRAINING AND READINESS (T&R) DIRECTIVE, MARINE AIR TRAFFIC CONTROL (MATC) (SHORT TITLE: T&R DIRECTIVE, MATC)

Ref: (a) NAVMC DIR 3500.14

Encl: (1) LOCATOR SHEET

1. PURPOSE. To revise training standards regarding the training of Marine Corps Air Traffic Control Officers and Enlisted Controllers, per the reference.

2. INFORMATION

a. The purpose of this directive is to establish procedures and standards for the training of Air Traffic Control Officers and Controllers.

b. Recommended changes to this directive are invited, and will be submitted via the syllabus sponsor and the appropriate chain of command to the Commanding General, Training and Education Command, Aviation Training Branch via e-mail (refer to http://www.tecom.usmc.mil/atb/contacts_.htm) or the Defense Message System using the following plain language address: CG TECOM QUANTICO VA ATB.

3. SCOPE. MATC personnel shall train to the standards and programs of instruction contained in this directive.

4. COMMAND. This directive is applicable to the Marine Corps Total Force.

5. CERTIFICATION. This directive is reviewed and approved this date.

K. J. STALDER
By direction

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T&R DIRECTIVE, MATC

RECORD OF CHANGES

Log completed change action as indicated.

Change Number	Date of Change	Date Entered	Signature of Person Incorporated Change

T&R DIRECTIVE, MATC

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100. UNIT CORE COMPETENCY

1. Background

a. Marine aviation plays a crucial role in the MAGTFs ability to conduct Maneuver Warfare. The ultimate goal of Marine Aviation is to attain the highest possible combat readiness to support Expeditionary Maneuver Warfare while at the same time preserving and conserving our Marines and equipment. Embedded within our combat readiness is the ability to rapidly, effectively and efficiently deploy on short notice and to quickly and effectively plan for crises and/or contingency operations thereby ensuring the Marine Air Command and Control System (MACCS) remains ready for combat when and where the need arises.

b. This T&R directive represents the collaborative effort of Air Traffic Control (ATC) subject matter experts who designed training standards to maximize the full combat capabilities of Marine ATC (MATC) units. These standards, intrinsic in the core competency section, describe and define unit capabilities and requirements necessary to maintain like-squadron proficiency in core skills and combat leadership. Training events are based on specific requirements and performance standards that ensure crews maintain a common base of training and depth of combat capabilities. Together, the T&R comprises a building block approach to ensure trained crews remain ready, relevant and fully capable of supporting the MAGTF commander.

c. The capabilities defined and described in the core competency model are provided to ensure each like-squadron maintains a common base of training and depth of capabilities. When resources permit, and when in the judgment of the commander additional training would significantly increase the unit's warfighting capability, training to a level above these base capabilities is permitted. It is incumbent upon, and expected of, the commander to balance any increase in the depth of core capabilities against the long-term health and readiness of the unit while staying within resource constraints.

2. Marine Air Traffic Control (MATC) Mission. To provide all weather radar/non-radar approach, arrival, departure, enroute and tower MATC services to friendly aircraft. MATC conducts task-organized operations in support of Forward Operating Bases, Marine Air Ground Task Forces (MAGTF), joint and coalition operations, and integrates into the MACCS, Integrated Air Defense System (IADS) and Single Integrated Air Picture (SIAP).

3. Mission Essential Tasks (METs)

a. (UJTL TA 1) Deploy/Conduct Maneuver:
- Conduct operations under the Expeditionary Maneuver Warfare Capstone Concept.
-Provide tower, radar/non-radar approach, arrival, departure and en-route MATC services within assigned airspace.

-Provide precision and non-precision navigational aids (NAVAIDS).
-Provide combat and civil airspace management, control and surveillance.
-Develop, implement and validate radar and non-radar IFR Terminal Instrument Procedures (TERPS) for use at pre-established and expeditionary airfields and integrate required MATC services into the existing civil/military, national/international ATC architectures.

b. (UJTL TA 2.4) Disseminate Tactical Warning Information and Attack Assessment: Integrate, display and disseminate appropriate information to the designated Combined/Joint Forces Air Component Commander (C/JFACC), Airspace Control Authority (ACA), Area Air Defense Commander (AADC) and other Theater Air/Ground System (TAGS) agencies.

c. (UJTL TA 3.2.7) Conduct Air and Missile Defense Operations:
-Provide combat and civil airspace management, control and surveillance.
-Integrate, display, and disseminate appropriate information to the designated C/JFACC, ACA, AADC and other TAGS agencies.
-Coordinate activation of the Base Defense Zone (BDZ) as part of the IADS.

d. (UJTL TA 3.2.8) Conduct Air-to-Air Operations: Integrate, display, and disseminate appropriate information to the designated C/JFACC, ACA, AADC and other TAGS agencies.

e. (UJTL TA 5.2.1) Establish, Operate and Maintain Baseline Information Exchange:
-Provide MATC liaison personnel to coordinate ATC related issues between TAGS agencies (as required) and national/international civil/combat ATC systems.
-Augment SIAP via data link to TAGS agencies.

f. (UJTL TA 6.3) Conduct Rear Area Security: Integrate, display, and disseminate appropriate information to the designated C/JFACC, ACA, AADC and other TAGS agencies, and coordinate activation of the BDZ as part of the IADS.

g. (UJTL TA 6.5) Provide for Combat Identification:
-Integrate, display and disseminate appropriate information to the designated C/JFACC, ACA, AADC and other TAGS agencies, and coordinate activation of the BDZ as part of the IADS.
-Provide visual or electronic identification of aircraft within MATC assigned airspace.

h. (UJTL TA 7.1) Conduct Mission Operations in CBRN Environment: Conduct MATC combat operations in a Nuclear, Biological and Chemical (NBC) environment.

4. Table of Organization (T/O). Total Force Structure Division (TFSD) and Marine Corps Combat Development Command (MCCDC) manage T/Os. Table 1-1 depicts MATC T/Os authorized as of the date of this Directive.

Table 1-1.-- MACS MATC T/O (8633) and (8633A).

T/O for One MATC Detachment * (Air Traffic Controllers only).	
HQ	
(01)	Officer
(01)	Enlisted (NCOIC)
MATC Operations	
(02)	Officers
(13)	Tower Enlisted
(19)	Radar Enlisted
MMT #1	
(01)	Officers/SNCOIC
(03)	MATC Enlisted
MMT #2	
(01)	SNCOIC
(03)	MATC Enlisted
44	Total

* MACS-1 (REIN)/MACS-2 (REIN) each have (1) MATC Dets.
* MACS-4 has (2) MATC Dets and MACS-24 has (1).
* Maintenance/administration personnel assigned to MATC Dets are not listed.

5. Core Capability. The MATC Detachment (MATCD) is part of the Marine Air Control Squadron (MACS) and is the principal ATC organization within the MACCS. The MATCD normally deploys as part of the MACCS within the MAGTF but may also deploy independently or as part of a combined or joint force should the mission dictate. Core capabilities of the MATCD and MATC Mobile Team (MMT) follow:

a. Core Capable Marine MATC Detachment (MATCD). The core capable MATCD establishes continuous all weather ATC services to an independent and geographically separate main air base or air facility, or provides these services at a pre-established airfield. Additionally, it can provide mobile MATC services at two remote air sites or points, see paragraph 5.b.

MATCD Crew[1]

1 Watch Commander (WC).
1 Radar Supervisor (RS).
1 Radar Approach Control (APC).
1 Arrival/Departure Control (ADC).
1 Flight Data/Clearance Delivery Controller (RFD).
1 Data Link Coordinator (DLC).
2 Radar Final Controllers (RFC).
1 Tower Supervisor (TS).
1 Local Controller (TLC).
1 Ground Controller (TGC).
1 Flight Data Controller (TFD).

Note 1: Denotes one minimum manned crew for sustained operations. However, crew composition is task-organized based on mission and its duration. Total

MATCD crews required is driven by mission duration, operational hours and national/international ATC regulations.

b. Core Capable MATC Mobile Team (MMT). A core capable MMT is task-organized to provide initial rapid response ATC to support any MAGTF and/or combined/joint mission. MMT shall support operations to air sites and may support operations at air points or air facilities. The baseline MMT for 72-hour continuous operations without re-supply or additional augmentation to meet any MAGTF and/or combined/joint mission is a standard 6-man team.

MMT[1]
1 MATC Officer/SNCO.
3 Controllers.
1 NAVAID Technician.
1 MATC Communication Technician.

Note 1: Denotes minimum team size. Team composition is task-organized based on mission and duration. Two technicians noted are maintenance personnel not noted in table 1-1.

c. Administrative Note. The size of the MATCD or MMT is subject to detailed planning of T/O and T/E to meet mission requirement and duration. Composition for the MATCD or MMT noted above is the baseline from which adjustments may be made through the Marine Corps Planning Process (MCPP).

6. METL/Core Skills. Core skills shall be a determining factor in developing T&R requirements; core skills abbreviations are listed in table 1-2. Core skills directly support METs for each unit, see tables 1-3 and 1-4 below. Special skills and training requirements must receive appropriate prioritization and emphasis based on the training need and the likelihood of those types of missions being assigned during operations.

Table 1-2.--Core Skills Abbreviations.

CORE SKILL	ABBREVIATION
Arrival/Departure Control	ADC
Approach Control	APC
Battle Management	BMT
Basic Radar Control	BRC
Basic Tower Control	BTC
Crew Management	CMT
Data Link Coordination	DLC
Marine ATC Mobile Team	MMT
Terminal Instrument Procedures	TERP
Tower Local Control	TLC

Table 1-3.--Core Skills and METL Matrix.

METL	CORE SKILLS									
	ADC	APC	BMT	BRC	BTC	CMT	DLC	MMT	TLC	TERP
Deploy/Conduct Maneuver	X	X	X	X	X	X	X	X	X	X
Disseminate Tactical Warning Information and Attack Assessment	X	X	X			X	X	X	X	
Conduct Air and Missile Defense Operations	X	X	X			X	X	X	X	
Conduct Air to Air Operations	X	X	X			X			X	
Establish, Operate, and Maintain Baseline Information Exchange	X	X	X			X	X	X	X	
Conduct Rear Area Security			X					X		
Provide for Combat Identification	X	X	X			X	X	X	X	
Conduct Mission Operations in CBRN Environment	X	X	X	X	X	X	X	X	X	X

Table 1-4.--Core Plus Skills and METL Matrix.

METL	CORE PLUS			
	BMT	CMT	MMT	TERP
Deploy/Conduct Maneuver	X	X	X	X
Disseminate Tactical Warning Information and Attack Assessment	X	X	X	
Conduct Air and Missile Defense Operations	X	X	X	
Conduct Air to Air Operations	X	X		
Establish, Operate, and Maintain Baseline Information Exchange	X	X	X	
Conduct Rear Area Security	X	X	X	
Provide for Combat Identification			X	
Conduct Mission Operations in CBRN Environment	X	X	X	X

7. Core Model Minimum Requirements (CMMR). MATCD core competency reflects the minimum level of competency a MACS must achieve to perform its core capability in the ATC mission. MATCD core competency is measured in terms of minimum core skill proficiency and minimum numbers of leaders per paragraphs 7a and 7b below.

a. Minimum Unit Core Skill Proficiency (CSP). As a minimum, in order to be core competent in the ATC mission, a MATCD must posses a minimum number of crews and MATC personnel competent in each core skill (unit CSP), as noted in table 1-5. In order to be considered competent in a core skill (individual CSP), an individual must attain and maintain proficiency in core skill events, as delineated in paragraphs 7a(1) and 7a(2) below.

Table 1-5.--Minimum Unit Core Skill Proficiency.

MATC DETACHMENT[1]						
CORE SKILL	**7220**	**7291**	**7257**	**7254**	**7253**	**7252**
BTC (TGC/TFD)	-	-	9 (4/5)	-	-	-
BRC (RFD/RFC)	-	-	8 (4/4)	-	-	-
DLC	-	-	3[2]	-	-	-
TLC	-	-	-	-	-	6
ADC	-	-	-	-	3	*
APC	-	-	-	3	-	-
MMT	1	-	2[3]	-	-	3[3]
CMT	-	-	-	3	-	3
BMT	-	-	-	-	-	-
CORE PLUS[4]						
BMT	3	1	-	-	-	-
CMT	-	-	-	1	-	1
TERP	-	-	1	-	-	-

Note 1: MACS-1 / MACS-2 each have (3) MATCDs.
MACS-4 has (2) MATCDs and MACS-24 has (1).
Maintenance/administration personnel assigned to MATCDs are not listed.
Note 2: DLC is additional duty fulfilled by an organic BRC.
Note 3: MMT personnel are organic to 7257 and 7252 Core Skills.
Note 4: Proficiency in both core skill and core plus are required to obtain unit CSP.

(1) Events Required to Attain Individual Core Skill Competency. To initially attain competency in a core skill, an individual must successfully complete all of the T&R events listed in table 1-6 below for the core skill.

Table 1-6.--Attain Individual Core Skills.

MOS	CORE SKILLS						CORE PLUS		
	BTC	BRC	BMT	CMT	MMT	BMT	MMT	CMT
7220	220 221 222 223 224	230 231 232 233	357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373	340 341 342	380 381 382 383	460 461 462 463 464 465 466 467 468 469 470 471 472 473 474	480	440 441
There are no "Refresh or Refly" event requirements for MATCOs.								

(2) Events Required to Maintain Individual Core Skill Competency. All MATCO events required to attain core skill proficiency are one-time events that do not require Refly or Refresh; thus, there are no R-coded events and no requirement for a "Maintain" table. Once MATCOs attain competency by completing all events for that core skill, their core skill proficiency is maintained permanently without having to refly or refresh any of the events.

b. Minimum Combat Leadership Requirements. As a minimum, in order to be considered core competent, a MATCD must posses the crews with the listed combat leadership designations as noted in table 1-7.

Table 1-7.--Combat Leadership Requirements.

COMBAT LEADERSHIP	PER MATC DET
DETACHMENT COMMANDER	1
MATC WATCH COMMANDER	2
MMT LEADER	2
NCOIC	1
TOWER CHIEF	1
RADAR CHIEF	1
TOWER SUPERVISOR	3
RADAR SUPERVISOR	3
	TOTAL: 14

8. Qualification, Designation and Instructor Requirements. Table 1-5 delineates T&R events required to be completed to attain initial qualifications and designations. All required training lectures (appendix A) and prerequisites shall be completed prior to completing final events; appendix B is a list of reference required to complete MATCO syllabus training. Qualification and designation letters signed by the commanding officer or his representative shall be placed in the MACCS performance record.

a. Qualification. A qualification is a status assigned based on demonstrated proficiency in a specific skill. Specific criteria to achieve qualifications is delineated in table 1-8, MAWTS-1 course catalog and governing directives. Upon completion of qualification criteria, appendix C shall be completed and included in the MACCS performance record. The tower ground control; radar final control and MMT leader qualifications are one-time required events for MATCOs.

Table 1-8.-- MATCO Qualifications.

QUALIFICATION	REQUIREMENT	TRACKING CODE
Tower Ground Control	BTC-224	QUAL-624
Radar Final Controller	BRC-233	QUAL-633
MMT Leader	MMT-383E	QUAL-682
E = Evaluation		

b. Designation. A designation is a status assigned to an individual based on leadership ability (see table 1-9). It is command specific and remains in effect until removed for cause, rescinded at the commander's discretion, or the individual is transferred to another command. Commanders shall issue the individual a designation letter for inclusion in the MACCS performance record.

Table 1-9.-- MATC Designations.

DESIGNATION	REQUIREMENT	TRACKING CODE
WTI-Air Control	INST-500	DESG-600
MMT Leader Instructor	INST-501	DESG-601
ATCFO	CMT-440	DESG-640
ATC FWO	CMT-342	DESG-642
MATCD WC	CMT-365	DESG-665
MATCD Commander	BMT-477	DESG-677
MMT Leader	QUAL-683	DESG-683

c. Instructor Requirements. As a minimum, a unit should maintain instructor designations to support MATC operations (see table 1-10). MATCOs receive MOS 7277 upon completion of WTI; completion certificate shall be placed in the MACCS performance record. Instructor designations are outlined in the MAWTS-1 Course Catalog, MCO 3500.12D (WTTP), and other governing directives.

Table 1-10.--MATCO Instructor Qualifications.

EVENT	REQUIREMENTS	TRACKING CODE
Qualify as WTI-Air Control	INST-500	QUAL-600
Qualify as MMT Leader Instructor	INST-501	QUAL-601

9. MATC Training Progression Philosophy

a. MATC training is unique amongst other MACCS MOS training because of the requirement to function in tactical and civilian ATC environments simultaneously, whether assigned to a MATCD or MCAS. The MATCO provides Marine aviation the requisite interface required to conduct wartime operations and peacetime training exercises, integrating seamlessly into the U.S. National Airspace System (NAS) or a sovereign nation's airspace. The extensive training and qualification requirements which controllers are required to meet, under both Federal Aviation Administration (FAA) and

international regulations, ensures the ability of Marine aviation to operate safely and legally anywhere in the world.

b. This training progression philosophy applies to air traffic controllers in the Marine Corps Reserve.

c. The MATCO progression model (fig. 1-1) provides a clear **logical progression of qualifications** within a unit. The emphasis of this model is on personnel qualifications in Core Skill Basic and Core Skill Advanced stages; with this model, training officers have the guidance needed to produce viable training plans. Units should use the model as a point of departure to generate weekly, monthly, quarterly and annual training plans.

d. Appendix D, MARADMIN 229/04, amplifies the ATC progression model by providing ATC skill sets to trained to and CTO/ATCS ratings available based on CNO N785F assigned ATC facility classifications.

MATCO Progression Model

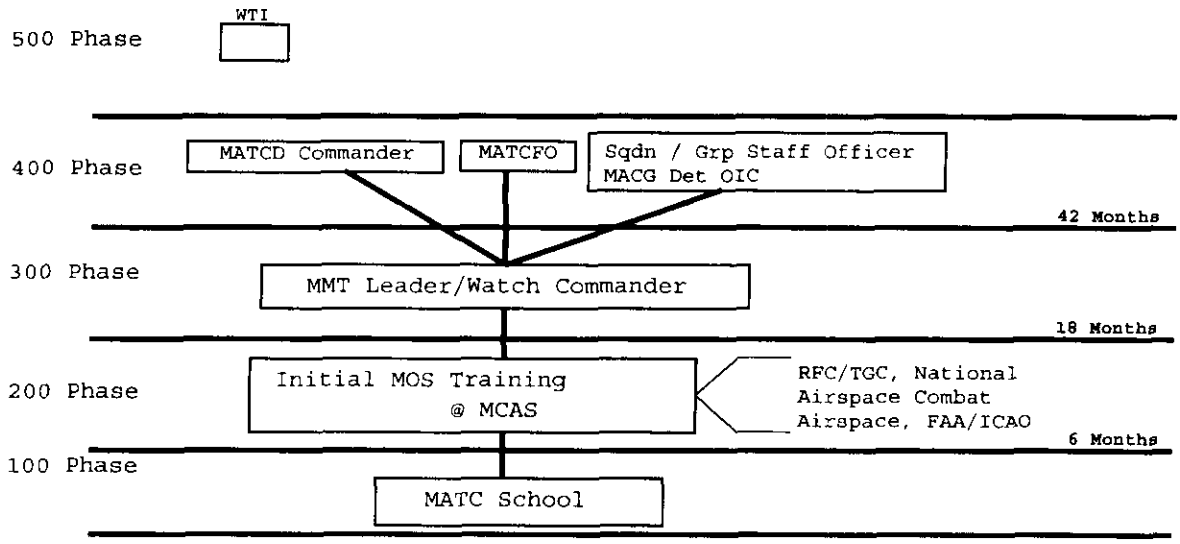

Figure 1-1.--MATCO Progression Model

101. PROGRAMS OF INSTRUCTION (POI) FOR MARINE AIR TRAFFIC CONTROL OFFICERS (MATCO)

1. Basic MATCO

Months	Phase	Activity
1-4	Core Introduction Training	NATTC
5-24	Core Skill Basic	MACS/MCAS
25-60	Core Skill Advanced	MACS/MCAS
61-120	Core Plus	MACS/MCAS

2. Refresher POI for MATCO. There are no refresher requirements for MATCOs. The two-week ACCOC Course offered by MAWST-1 is recommended for those MATCOs who are assigned to a non-ATC related billet for greater than 24 months.

3. MATC WTI-Air Control Officer

Months	Course	Activity
1.5	WTI	MAWTS-1

102. MATCO TRAINING

1. Core Skill Introduction Training

STAGE	EVENTS	PERCENT
MARINE MATC OFFICER COURSE	47	60.00%

2. Core Skill Basic Training

STAGE	EVENTS	PERCENT
BTC	5	8.00%
BRC	4	7.00%
TOTAL	**9**	**15.00**
ACCUMULATED TOTAL	**56**	**75.00**

3. Core Skill Advanced Training

STAGE	EVENTS	PERCENT
BMT	17	15.50%
MMT	4	4.00%
CMT	3	1.00%
TOTAL	**24**	**20.50**
ACCUMULATED TOTAL	**80**	**95.50**

4. Core Plus Training

STAGE	EVENTS	PERCENT
BMT	15	3.75%
MMT	1	0.25%
CMT	2	0.50%
TOTAL	**18**	**4.50**
ACCUMULATED TOTAL	**98**	**100.00**

5. Instructor Training

STAGE	EVENTS
MMT LEADER INSTRUCTOR	1
WTI	1

103. MATCO REFRESHER TRAINING. None.

110. ACADEMIC TRAINING

1. Academic training shall be conducted for each phase/stage of the syllabus. Commanders shall incorporate the lectures in appendix A into the unit training plans. Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

2. Academic training listed in 700 and 800 levels is applicable to personnel assigned to MATC MOSs.

3. External academic courses of instruction available to complete the syllabus are listed below:

COURSE	ACTIVITY
Marine Air Traffic Control Officer Course	NATTC, FL
Advanced Marine Air Traffic Control Detachment Course	NATTC, FL
Air Traffic Control Management Course	NATTC, FL
Terminal Instrument Procedures Course	FAA
Military Airspace Management Course	KEESLER AFB, MS
Weapons and Tactics Instructor Course	MAWTS-1
Marine ATC Mobile Team Leaders Course	MAWTS-1
Aviation Command and Control Officers Course (ACCOC)	MAWTS-1
Joint Air Tasking Order Process Course (JATOPC)	Hurlburt Field, FL
Joint Air and Space Operation Center (AOC) Initial Qualification Training (IQT); Airspace Course	Hurlburt Field, FL
Multi-TDL Advanced Joint Interoperability Course	Fort McPherson, GA

130. EVENT PERFORMANCE REQUIREMENTS

1. The purpose of this section is to provide the commander with standardized training program for all MATC personnel. The overall goal is to develop unit warfighting capabilities and not to measure the proficiency of individuals. Syllabi are based on specific performance standards designed to ensure proficiency in core competencies. An effective T&R program is the first step in providing the MAGTF commander with an Aviation Combat Element (ACE) capable of accomplishing any and all of its stated missions. The T&R program provides the fundamental tools for commanders to build and maintain unit combat readiness. Using these tools, training managers can construct and execute an effective training plan that supports the unit's METs.

2. Unit training management is the application of the Marine Corps Training Principles and the Systems Approach to Training to satisfy the training requirements of commanders at all levels in order to accomplish their wartime mission. Guidance concerning unit training management and the process for establishing effective unit training management programs are contained in MCRP 3-0A, *Unit Training Management Guide*, and form the basis for the development of this T&R Directive. Familiarity with MCRP 3-0A will enhance understanding of the Systems Approach to Training used in T&R development and Marine Corps UTM principles.

3. MACCS Integrated System Training. All elements of the MACCS shall maintain the capability to effectively function as part of an integrated airspace command and control system. In that, large exercises may not always offer sufficient training opportunity for all crew members and in many cases do not offer sufficient latitude to refine capability upon arrival, the MACCS should conduct MACCS Integrated System Training Exercises (MISTEX) on a regular basis to qualify units and personnel per their respective T&R syllabus. MISTEXs should focus on the establishment of necessary communications and data links between MACCS agencies, and incorporate sufficient simulation and Marine Simulation Events List (MSEL) items to exercise and analyze system integration, crew coordination, and critical information flow wherever possible. Tactical Digital Information Link (TDL) capable agencies should conduct frequent "Link" training exercises to maintain proficiency.

4. The MATCO syllabus requires in-depth integration within the MACCS. Likewise, development of MAGTF training involving extensive integration with applicable elements of the MAGTF is mandatory in the development of a core skill. Training not conducted in a live training environment shall be replaced with simulation where applicable and as indicated in the condition code for each event.

131. CORE SKILL INTRODUCTION TRAINING

1. General

a. This phase provides classroom entry-level instruction on ATC concepts, regulations, procedures and operating techniques as well as MATC doctrine and capabilities. The instruction ensures understanding and application of MATC rules and regulations required for a controller to qualify and perform ATC functions at a MATCD or MCAS. Upon completion of the MOS producing school, the officer possesses the same certification obtained by FAA controller graduates from the National FAA Air Traffic Control School. This phase is achieved upon completion of Marine Air Traffic Control Officers Course located at NAS Pensacola, FL.

b. Core Skill Introduction Stages

(1) Familiarization (FAM).
(2) Systems (SYS).
(3) Simulation (SIM).

2. Familiarization (FAM), System (SYS) and Simulation (SIM)

a. Purpose. To develop basic knowledge of ATC rules, procedures and operations. Completion of AC(A1) School at Naval Air Technical Training Center (NATTC), Pensacola, Florida is mandatory to satisfy this requirement. Core Skill Introduction training (100-level) does not require re-fly. Upon completion of this training, the individual is trained in ATC operations.

b. Prerequisite. Appropriate medical certificate, GT 105, 18 years old upon completion of ACA1 course and US Citizenship.

c. Academic Training. Formal school.

d. Classroom and Simulator Event Training: 47 events.

3. Familiarization (FAM)

FAM-100 E L

Goal. Introduce weather as applied to ATC.

Requirement. Describe aviation weather to include:

(1) Basic weather characteristics.
(2) Weather hazards.
(3) Aviation weather observations.
(4) Aviation weather forecasts.
(5) Weather advisories.
(6) Weather observing programs.
(7) Aviation sequence reports.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-101 E L

Goal. Introduce airspace, navigation, and time as applied in ATC.

Requirement. Describe the National Airspace System (NAS), time conversions, and basic navigation.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-102 E L

Goal. Introduce Special Use Airspace (SUA) used by the military.

Requirement. Describe SUA and controller responsibilities within each.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-103 E L

Goal. Introduce Navigational Aids (NAVAIDS).

Requirement. Describe basic radio theory and NAVAIDS.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-104 E L

Goal. Introduce charts and publications used in ATC.

Requirement. Given aeronautical charts and publications, locate information and complete statements per the Flight Information Publications (FLIP) program.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-105 E L

Goal. Introduce communications as applied in ATC.

Requirement. Describe communication procedures used in ATC.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-106 E L

Goal. Introduce airport design and ATC equipment.

Requirement. Describe airport design and ATC equipment.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-107 E L

Goal. Introduce general MATC procedures.

Requirement. Describe general MATC procedures to include:

(1) General control.
(2) Weather information.
(3) Federal Aviation Regulation (FAR) Part 91.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-108 E L

Goal. Introduce ATC terminal procedures.

Requirement. Select statements that describe general MATC procedures used in a terminal environment.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-109 E L

Goal. Introduce emergencies and special handling.

Requirement. Describe handling of emergency aircraft and special situations in a control tower environment.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-110 E L

Goal. Introduce non-radar procedures.

Requirement. Describe general non-radar procedures as applied in MATC.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-111 E L

Goal. Pass the Airmen's Written Test (AWT).

Requirement. Conduct a thorough review of all information taught in FAM-100 through FAM-110.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-112 E L

Goal. Control tower indoctrination.

Requirement. Describe the different operating positions in a control tower and the individual responsibilities of each.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-113 E L

Goal. Introduce basic radar knowledge.

Requirement. Describe the different operating positions in a radar facility, define basic radar theory, and identify associated equipment.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-114 E L

Goal. Introduce basic radar services provided by ATC.

Requirement. Describe basic radar services and procedures.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-115 E L

Goal. Introduce Airport Surveillance Radar (ASR).

Requirement. Describe terms and procedures used by an ASR Final Controller.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-116 E L

Goal. Introduce Precision Approach Radar (PAR).

Requirement. Describe terms and procedures used by a PAR Final Controller.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-117 E L

Goal. Introduce arrival control.

Requirement. Describe terms and procedures used by an Arrival Controller.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-118 E L

Goal. Introduce the Marine Air Traffic Control and Landing System (MATCALS).

Requirement. Describe the components and basic operation of the MATCALS, to include refer to MATCALS Standard Operations Directive):

(1) AN/TPS-73 Air Traffic Control Subsystem (MATCS).
(2) AN/TPN-22 Automatic Landing System (ALS).
(3) AN/TSQ-131 Control and Communication Subsystem (CCS).

Performance Standards. Execute the following functions with 70% accuracy:

(1) Load FOC software into MMD via Magnetic Tape Unit (MTU).
(2) Load FOC software into MMD via Serial Data Bus (SDB).
(3) Set up an MMD for surveillance usage (ADC).
(4) Set up an MMD for a Final Controller (FC) Trainee.
(5) Set up a Final Control (FC) simulation scenario.
(6) Set up an Arrival Control (ADC) simulation scenario.

FAM-119 E L

Goal. Introduce the six functions of Marine aviation.

Requirement. Describe the six functions of Marine aviation:

(1) AAW.
(2) OAS.
(3) Assault support.
(4) Electronic warfare.
(5) Reconnaissance.
(6) Control of aircraft and missiles.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-120 L

Goal. Introduce the mission, tasks, and organization of the Marine ATC Mobile Team (MMT).

Requirement. State mission, tasks and organization of an MMT to include:

(1) Mission of the MMT.

(2) Personnel and equipment requirements.
(3) Site set up and tear down.
(4) Site insertion/extraction.
(5) Planning requirements.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-121 L/S

Goal. Introduce VHF/UHF/HF field radio and associated equipment.

Requirement. Identify capabilities of VHF/UHF/HF field radio and associated equipment to include:

(1) AN/PRC-104 HF.
(2) AN/PRC-113 UHF/VHF (AM).
(3) AN/PRC-119 SINCGARS VHF (FM).
(4) AN/GRC-171 (V) (Tower).
(5) AN/GRC-171 (V) (TADIL-C).
(6) AN/GRC-211.
(7) AN/URC-94 (V).
(8) AN/VRC-82.
(9) KG-84C.
(10) KY-58 and 99.
(11) KIR-1C.
(12) KY-75.
(13) KYK-13.
(14) KOI-18.
(15) ARC-210.
(16) CYZ-10.
(17) AN/PRC-117F.
(18) AN/PRC-138.
(19) KY-99.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-122 L

Goal. Introduce the mission, tasks, and organization of the MATCD.

Requirement. Introduce the mission, tasks, and organization of the MATCD to include:

(1) Mission of the MATCD.
(2) Relationship of MATCD to Marine Air Control Squadron (MACS).
(4) Relationship of the MATCD to the MACCS.
(5) MAGTF employment capability of a MATCD as applied to:
    (a) Marine Expeditionary Force (MEF).
    (b) Marine Expeditionary Brigade (MEB).
    (c) Marine Expeditionary Unit (MEU).
(6) Special Purpose MAGTF.
(7) Site set-up and tear down.
(8) Insertion and extraction.
(9) Three operational sections of a MATCD.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-123 L

Goal. Introduce the MATCD equipment.

Requirement. Describe the capabilities of all MATCD equipment to include:

(1) AN/HD-1099, Air Conditioner.
(2) AN/MEP-006A, 60 kW, 60Hz, Generator with Loadbank.
(3) AN/MEP-531 Generator.
(4) VM-1503 Mobilizer.
(5) 9503 Mobilizer.
(6) M1022 Mobilizer.
(7) M998, HMMWV.
(8) SM-170, Maintenance Vans.
(9) AN/TPN-30A, Marine Remote Area Approach Landing System.
(10) AN/TPS-73, Air Traffic Control Subsystem.
(11) AN/TPN-22, All-weather Landing Subsystem.
(12) AN/TSQ-131, Control and Communication Subsystem.
(13) AN/TRN-44, TACAN.
(14) AN/TSQ-216, Remote Landing Site Tower.
(15) AN/TSQ-120, Expeditionary Control Tower.
(16) AN/TRC-195, Mobile Control Tower.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-124 L

Goal. Introduce mission, tasks, and organization of the MACS.

Requirement. State the mission, tasks, and organization of the MACS to include:

(1) TAOC Detachment.
(2) EW/C Detachment.
(3) MATCD.
(4) MAGTF's MACS employment options as applicable:
    (a) Marine Expeditionary Force (MEF).
    (b) Marine Expeditionary Brigade (MEB).
    (c) Marine Expeditionary Unit (MEU).
    (d) Special Purpose MAGTF.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-125 L

Goal. Introduce role, mission, and organization of the MACCS.

Requirement. State the role, mission, and organization of the MACCS to include:

(1) Fundamental mission, combat force structure and organization.
(2) Basic air control/air defense operational agencies, their missions and organization within the MACCS.

(3) Roles, functions, ranks, job titles and chain of command of key decision-making personnel in the TACC, TAOC, DASC, and MATCD.
(4) Capabilities, functions and configurations of the MACCS agencies:
    (a) Tactical Air Command Center (TACC).
    (b) Tactical Air Operations Center (TAOC).
    (c) Sector Air Defense Facility (SADF).
    (d) Early Warning Control Site (EW/C).
    (e) Direct Air Support Center (DASC).
    (f) Marine Air Traffic Control Detachment (MATCD).
(5) Mission and capabilities of LAAD Bn, MWCS, and VMU.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-126 L

Goal. State the capabilities and vulnerabilities of MACS radars.

Requirement. State the capabilities and vulnerabilities of MACS radars to include:

(1) MACS radar systems.
(2) Frequency bandwidth.
(3) ECCM.
(4) Range and altitude of each radar.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-127 L

Goal. Introduce basic Tactical Digital Information Link (TDL).

Requirement. State basic TDL knowledge to include:

(1) TDL definition.
(2) Existing TDL identification.
(3) TDLs utilized by the Marine Corps.
(4) TDLs utilized by the MATCD.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-128 L

Goal. Introduce the Theater Battle Management Corps System (TBMCS) and Human Machine Interface (HMI).

Requirement. Describe TBMCS and the Human Machine Interface (HMI) to include:

(1) Role of TBMCS as a tool for command and control.
(2) Purpose of TBMCS mission applications used within the Joint Air Operation Center (JAOC) and/or the TACC.
(3) Flow of data within TBMCS applications to produce the Air Tasking Order.
(4) TBMCS contribution to joint interoperability.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-129 L/S

Goal. Observe MACCS agencies in an exercise.

Requirement. In garrison/field exercise, observe MACCS agencies and be familiar with major operating positions, communication links, and integration requirements. Identify the following:

(1) Major operating positions of the:
    (a) TACC.
    (b) TAOC.
    (c) DASC.
    (d) LAAD.
    (e) MWCS.
    (f) VMU.
(2) Types of communication available at the:
    (a) TACC.
    (b) TAOC.
    (c) DASC.
    (d) LAAD.
    (e) MWCS.
    (f) VMU.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-130 L

Goal. Describe the MATCD LOA/SOP/Time Share documents and FAP agreement.

Requirement. Identify the characteristics of existing MATCD LOAs/SOP/Time Share documents and FAP agreement. Refer to Local LOAs/SOP/time share documents for the MATCD.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-131 L/S

Goal. Introduce MATCD site selection.

Requirement. Participate in the planning and conduct of a site survey for the placement of a MATCD. Perform the following:

(1) Select a MATCD site considering:
    (a) Mission.
    (b) Tower site with best view of airport, Class D airspace, and patterns.
    (c) PAR site that affords clear avenues.
    (d) Reconnaissance of selected sites.
    (e) ASR site that provides minimal terrain masking.
    (f) Radar coverage of the area of operations (AO).
    (g) Camouflage.
    (h) Site security.
    (i) Support equipment.

(2) Account for the following MATCD equipment characteristics:
  (a) Sighting limits of the radar set.
  (b) Optimum runway/sector coverage.
  (c) Obstructions to radar view.
  (d) Terrain characteristics.
  (e) Typical sighting configurations.
  (f) Power requirements.
  (g) Installation requirements.
  (h) Wind survival tie-down procedures.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-132 L

Goal. Describe Forward Operating Bases (FOBs) and how the MATCD supports them.

Requirement. Properly man and equip different FOBs common to the Marine Corps.

(1) Main Air Base.
(2) Air Facility.
(3) Air Sites (Tactical Landing Zone (TLZ), Helicopter Landing Zones (HLZ).
(4) Air Points (Forward Arming and Refueling Point [FARP], Rapid Ground Refueling [RGR], Lager Point, Tactical Landing Zones [TLX], Helicopter Landing Zones [HLZ], etc.).

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-133 L/S

Goal. Introduce flight inspection/certification procedures.

Requirement. Understand requirements for a flight inspection. Describe flight inspection/certification to include:

(1) Request to the appropriate agency.
(2) Standardization procedures and techniques for flight inspecting air navigation facilities.
(3) Certifying NAVAID/radar operational status.
(4) Certifying the instrument flight procedures that the NAVAID/radar supports.
(5) Flight check profiles associated with permissive and restrictive environments.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-134 L

Goal. Introduce Tactical Digital Information Link (TDL) theory.

Requirement. Explain TDL theory to include identifying the:

(1) Characteristics of existing TDLs.

(2) Meaning of Data Link Reference Point (DLRP), Unit System Coordination Center (USCC), Unit Position (UPOS) and the difference between the data grid and the display grid.
(3) Capabilities of each service's command and control agencies to conduct one or more of the TDLs.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-135 L

Goal. Describe MACCS TDL interoperability.

Requirement. Describe MACCS TDL interoperability to include:

(1) Major interface considerations with the following:
    (a) TDL-A.
    (b) TDL-B.
    (c) GBDL.
    (d) TDL-C.
    (e) TDL-J.
(2) Specific considerations for data link operation.
(3) Voice nets to be activated for joint service operations.
(4) Major considerations for selecting TDL systems.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-136 L/S

Goal. Demonstrate embarkation of MATCD equipment.

Requirement. Identify requirements and prepare required data to aid in constructing a load plan for amphibious shipping and fixed wing air transport platforms (C-5A, C-141B, C-17 and C-130). Specifically, describe how many lifts for each aircraft would it take to move below systems with associated support equipment:

(1) AN/TSQ-120 Expeditionary Control Tower.
(2) AN/TRC-195 Mobile Control Tower.
(3) AN/TSQ-216 Remote Landing Site Tower.
(4) AN/TSQ-131 Control and Communication Subsystem.
(5) AN/TRN-44 TACAN.
(6) AN/TPN-30A Marine Remote Area Approach Landing System.
(7) AN/TPN-22 All-Weather Landing Subsystem.
(8) TSM-170 Maintenance Van.
(9) AN/TSQ-73 Surveillance Radar.
(10) Equipment requiring movement with a 30-ton crane.
(11) Equipment requiring movement with a 7.5-ton crane.
(12) Equipment requiring movement with a 10,000 lb forklift.
(13) Equipment requiring movement with a 6,000 lb forklift.
(14) Ground transportation requirements to the APOE/APOD site.
(15) Equipment requiring movement with a RATCH.
(16) Pallet construction and packing.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-137 L

Goal. Understand civil and combat airspace management.

Requirement. Manage airspace issues in a civil or combat environment. Describe the following:

(1) Principal airspace control facilities and the types of control they employ.
(2) Characteristics of control points.
(3) Four airspace management principles.
(4) Factors used to determine mix of positive and procedural control.
(5) MACCS intelligence collection and dissemination procedures and capabilities.
(6) Command and control information flow.

Performance Standards. Pass an exam with a minimum score of 70%.

4. Systems (SYS)

SYS-150 L/S

Goal. Understand MATCD equipment characteristics.

Requirement. Apply operational knowledge of all MATCD equipment through practical application to include:

(1) AN/HD-1099, Air Conditioner.
(2) AN/MEP-006A, 60 kW, 60Hz, Generator with Load bank.
(3) AN/MEP-531 Generator.
(4) VM-1503 Mobilizer.
(5) M1022 Mobilizer.
(6) M998, HMMWV.
(7) TSM-170, Maintenance Vans.
(8) AN/TPN-30, Marine Remote Area Approach Landing System.
(9) AN/TPS-73, Air Traffic Control Subsystem.
(10) AN/TPN-22, All-Weather Landing Subsystem.
(11) AN/TSQ-131, Control and Communication Subsystem.
(12) AN/TSQ-216, Remote Landing Site Tower.
(13) AN/TRN-44, TACAN.
(14) AN/TSQ-120, Expeditionary control tower.
(15) AN/GRC-171(V)1.
(16) AN/GRC-171(V)2.
(17) AN/GRC-211.
(18) AN/URC-94(V)2.
(19) AN/VRC-82.

Performance Standards. Visually identify and provide general specifications for above equipment with a minimum of 70% accuracy.

SYS-151 L/S

Goal. Configure the Control and Communications Subsystem (AN/TSQ-131) and associated equipment for basic operation.

Requirement. Properly utilize all equipment in the AN/TSQ-131. Execute the following functions:

(1) Operate the Operator Control Unit (OCU).
(2) Set up communications for a final approach.
(3) Program Multi-Mode Display (MMD) for elevation/azimuth.
(4) Load FOC software into MMD via Magnetic Tape Unit (MTU).
(5) Load FOC software into MMD via Serial Data Bus (SDB).
(6) Set up an MMD for surveillance usage (ADC).
(7) Set up an MMD for a Final Controller (FC) Trainee.
(8) Set up a Final Control (FC) simulation scenario.
(9) Establish and exit a TDL-B circuit.
(10) Emergency circuit exit TDL-B.
(11) Use of filters against TDL-B.
(12) Build maps.

Performance Standards. Pass a performance test with a minimum score of 70%.

Prerequisite. Lectures A-18, A-19 and SYS-252.

5. Simulation (SIM)

SIM-160 E L

Goal. Introduce basic tower operations.

Requirement. Observe and begin to apply basic tower operations in a Static Lab.

Performance Standards. Utilizing proper phraseology and tower procedures, the trainee will demonstrate proficiency to progress to the Tower Operator Training System (TOTS).

Prerequisite. FAM-112.

SIM-161 E L

Goal. Perform as a control tower operator.

Requirement. Using the 15G32 Tower Operator Training System (TOTS), perform as the following:

(1) Flight Data Operator per FAA 7110.65 and applicable instructions while observing all safety precautions.
(2) Ground Control Operator per FAA 7110.65 and applicable instructions while observing all safety precautions.
(3) Local Control Operator per FAA 7110.65 and applicable instructions while observing all safety precautions.

Performance Standards. Pass a performance test with a minimum score of 70% on each operating position.

Prerequisite. SIM-130.

SIM-162 E L

Goal. Perform as an ASR Final Controller.

Requirement. Utilizing the 15G31 voice-recognition training device, perform duties of an ASR Final Controller per FAA 7110.65 and applicable instructions while observing all safety precautions.

Performance Standards. Pass a performance test with a minimum score of 70%.

Prerequisite. FAM-115.

SIM-163 E L

Goal. Perform as a PAR Final Controller.

Requirement. Utilizing the 15G31 voice-recognition training device, perform duties of a PAR Final Controller per FAA 7110.65 and applicable instructions while observing all safety precautions.

Performance Standards. Pass a performance test with a minimum score of 70%.

Prerequisite. FAM-116.

SIM-164 E L

Goal. Identify and vector an aircraft.

Requirement. Utilizing the 15G31 voice-recognition training device, identify and vector an aircraft through a series of corridors.

Performance Standards. An aircraft shall be vectored from its initial position to the approach gate without touching the sides of the corridors or the airspace boundary.

Prerequisite. FAM-117.

SIM-165 E L

Goal. Perform as an Arrival Controller.

Requirement. Utilizing the 15G31 voice-recognition training device, perform duties of an Arrival Controller per FAA 7110.65 and applicable instructions while observing all safety precautions.

Performance Standards. Pass a performance test with a minimum score of 70%.

Prerequisite. FAM-134.

SIM-166 E L

Goal. Perform as a MATCALS basic equipment operator.

Requirement. Perform the functions of a MATCALS basic equipment operator while operating in all modes of operation, while observing safety precautions to include:
(1) Arrival departure Control (ADC) Mode.
(2) Final Control (FC) Mode.
(3) Training Modes.

Performance Standards. Pass a performance test with a minimum score of 70%.

Prerequisite. SYS-150.

132. CORE SKILL BASIC TRAINING

1. General

a. This phase applies skills and information obtained in the Core Skill Introduction phase (100-level) while assigned to a MCAS or MACS, under the direct supervision of qualified controllers in an OJT environment. Initial individual core skills are learned and mastered using a mix of live aircraft and simulation. Training includes introduction to MATCD equipment and the MACCS. This phase is completed when the officer achieves Naval Air Training and Operating Procedures Standardization (NATOPS) qualifications as a Radar Final Control and Tower Ground Control; thus, making the officer proficient in core competencies.

b. Core Skill Basic Stages

(1) Basic Tower Control (BTC), Tower Ground Controller (TGC).
(2) Basic Radar Control (BRC), Radar Final Controller (RFC).

c. Administrative Note. The ability to attain a TGC or RFC qualification requires basic working knowledge of a Flight Data (FD) and Clearance Delivery (CD) Controller. The MATCO has NO requirement to attain the qualification of these positions (FD/CD); however, it is recommended the MATCO complete required written tests at or above 80% and work between 60% to 75% of the total training hours allowed for those positions (FD/CD) before attaining a TGC or RFC qualification. This administrative note does not prevent a MATCO from attaining additional qualifications above the required two positions, but recommends an introduction to the managerial workings of an ATC facility while assigned to a MCAS.

2. Basic Tower Control (BTC) Training

a. Purpose. To develop proficiency in MATC tower ground operations. Upon completion of this training, the officer is trained in ATC tower control procedures.

b. Administrative Notes. The Basic Tower Ground Controller qualification should be attained at a MCAS. The intent is for a MATCO to have a general understanding of FAA, National Airspace Systems (NAS) rules

and regulations. This requirement does not preclude in times of war, while under ICAO or Combat Airspace rules and regulations, the ability of the officer to be qualified with this rating. In such cases, special consideration should be given for that officer upon his/her return to a peacetime environment to be assigned to the MCAS in the role of a Facility Watch Officer (FWO) or as the Assistant ATC Facility Officer (ATCFO) to further his/her understanding of the operation of an ATC facility and how it relates to the FAA and NAS.

c. Prerequisite. Complete the 100-level of this syllabus.

d. Academic Training. Basic academic training for this qualification is governed by the local ATC facility's controller qualification syllabus. In addition, the MAWTS ASPs in appendix A should be accomplished to the fullest extent possible without interfering with ATC facility training requirements that should include basic understandings of ATC facility operations, the FAA, and the NAS. Some events require a controller to be familiar with knowledge requirements listed in 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%. All qualifications require official and legal certification standards that govern such qualifications under the rules and regulation of the FAA.

e. Live and Simulator Event Training. 5 events.

BTC-220 L/S

Goal. Operate fixed control tower equipment.

Requirement. Operate fixed tower equipment to include:

(1) Transmitter/receiver control panel(s).
(2) Backup/emergency transmitter/receiver location and controls.
(3) Airfield lighting console/computer.
(4) Intercom units.
(5) Telephones.
(6) Altimeter.
(7) Aldis lamp.
(8) Wind instruments.
(9) Clocks.
(10) NAVAID monitors.
(11) Console and cab lighting.
(12) Cooling and heating controls.
(13) P. A. system.
(14) Emergency alert system.
(15) Fire extinguishers.
(16) Emergency power cutoff.
(17) Traffic tabulators.
(18) FDEP/FDIO.
(19) BRANDS/BRITE.
(20) Personal Computer.
(21) Weather reporting monitor.
(22) Tower Display Workstations (TDW).

Performance Standards. Operate fixed tower equipment to a proficiency of 80%.

Prerequisite. KFAM-805.

BTC-221 L/S

Goal. Operate the Expeditionary Control Tower (AN/TSQ-120) and associated equipment.

Requirement. Properly utilize all equipment in the AN/TSQ-120. Locate and operate the following:

(1) Power distribution panel.
(2) Internal and external lights.
(3) Aldis lamp.
(4) Overhead speakers and adjustment knobs.
(5) Flare gun assembly and firing switch.
(6) Digital clock.
(7) Thermostat.
(8) Convert barometric pressure reading to altimeter setting.
(9) Wind direction and speed indicator operation.
(10) TELCO (intercom/land line).
(11) VHF and UHF tunable radios.
(12) Radio selector buttons.
(13) Speaker selector switch.
(14) ATIS.
(15) Microphone and headset/handset jacks.
(16) Crash alarm.
(17) Fire detector.
(18) Operators Control Unit (OCU).

Performance Standards. Operate equipment on the AN/TSQ-216 to a proficiency of 80%.

Prerequisite. KFAM-700.

BTC-222 L/S

Goal. Operate the Remote Landing Site Tower (AN/TSQ-216) and associated equipment.

Requirement. Properly utilize all equipment in the AN/TSQ-216. Locate and operate the following equipment:

(1) Power distribution panel.
(2) Internal and external lights.
(3) Aldis lamp (IR and visible light).
(4) Flare gun.
(5) Digital clock.
(6) Thermostat.
(7) Convert barometric pressure reading to altimeter setting.
(8) Wind direction and speed indicator operation.
(9) TELCO (intercom/land line).
(10) VHF, UHF and HF tunable radios.
(11) Radio selector buttons.
(12) Speaker selector switch.
(13) ATIS.
(14) Microphone and headset/handset jacks.

(15) Crash alarm.
(16) Fire detector.
(17) Operators Control Unit (OCU).
(18) Antenna construction.
(19) Generator.

Performance Standards. Operate the equipment on the AN/TSQ-216 to a proficiency of 80%.

Prerequisite. KFAM-700.

BTC-223 L/S

Goal. Perform duties of a Tower Ground Controller (TGC).

Requirement. In a control tower, under direct supervision of an OJTI, perform duties and responsibilities of a TGC. Refer to:

NAVAIR 00-80T-114
Ch4 Naval Certification Procedures.
Ch6 General (Tower Operations).
Ch8 Training, Standardization, and Air Traffic Controller Performance Evaluations.
Appendix G MATC Specialist Mishap Statement.
Appendix I Minimum Altitude Vectoring Chart.
Appendix J OJT Performance Evaluation.
Local publications and MCO 3501.9B.

Performance Standards. Demonstrate the proficiency required to be recommended for qualification as a TGC.

Prerequisite. BTC-220, KFAM-800 thru KFAM-807, all KTGC events.

BTC-224 E L

Goal. Qualify as a Tower Ground Controller (TGC).

Requirement. In a garrison or field environment, under direct supervision and in compliance with established NATOPS evaluation criteria, apply knowledge and procedures in a safe, orderly, and expeditious manner while on the TGC position. Perform the following

(1) Formulate and issue ground movement clearances to aircraft and vehicles operating on the airport.
(2) Transmit current weather and field conditions, as required.
(3) Conduct other duties assigned by the Tower Supervisor.
(4) Conduct other duties outlined in the local Facility Directive.

Performance Standards. Pass an OJT exam demonstrating knowledge and proficiency as a TGC:

Prerequisite. BTC-223.

3. Basic Radar Control (BRC) Training

a. Purpose. To develop proficiency in MATC Radar Final Controller operations. Upon completion of this training, the officer is trained in basic ATC radar control procedures.

b. Administrative Notes. The Basic Radar Final Controller qualification should be attained at a MCAS. The intent is for the MATCO to have a general understanding of FAA, NAS rules and regulations. This requirement does not preclude in times of war, while under ICAO or Combat Airspace rules and regulations, the ability of the Officer to be qualified with this rating. In such cases, special considerations should be given to that officer upon his/her return to a peacetime environment. The officer should be allowed to return to the role of Facility Watch Officer or as Assistant ATC Facility Officer to further his/her understanding of the operation of an ATC facility and how it relates to the FAA and the NAS.

c. Prerequisite. Complete the 100-level of this syllabus.

d. Academic Training. Basic academic training for this qualification is governed the local ATC facility ATC controller qualification syllabus. In addition, the MAWTS-1 ASPs in appendix A should be accomplished to the fullest extent possible without interfering with ATC facility training requirements that should include basic understandings of ATC facility operations, the FAA, and the NAS. Some events require a controller to be familiar with knowledge requirements listed in 700 and 800 level events. All knowledge events must be evaluated through an oral or written test with a minimum score of 80%. All qualifications require official and legal certification standards that govern such qualifications under the rules and regulation of the FAA.

e. Live and Simulator Event Training. 4 events.

BRC-230 L/S

Goal. Operate fixed (permanent) radar equipment.

Requirement. Operate fixed radar equipment to include:

(1) Search Radar.
(2) Precision Radar.
(3) Transmitter/receiver control panel(s).
(4) Backup/emergency transmitter/receiver location and controls.
(5) Intercom units.
(6) Telephones.
(7) Altimeter.
(8) Wind instruments.
(9) Clocks.
(10) NAVAID monitors.
(11) Console lighting.
(12) Cooling and heating controls.
(13) Emergency alert system.
(14) Fire extinguishers.
(15) Emergency power cutoff.
(16) FDEP/FDIO.
(17) Personal Computer.
(18) Weather reporting monitor.
(19) VISCOM.

(20) Simulator.

Performance Standards. Operate the fixed radar equipment to a proficiency of 80%.

Prerequisite. KFAM-808.

BRC-231 S

Goal. Control precision/surveillance approaches using simulation mode of a Control and Communications Subsystem (AN/TSQ-131).

Requirement. Utilize the AN/TSQ-131 equipment under the supervision of an OJTI. Control 20 simulated approaches using RFC modes of the MATCALS while incorporating unusual circumstances:

(1) Simulated Mode III final approach.
(2) Simulated Mode II final approach.
(3) Simulated Mode II, ACLS, TDL-C.
(4) Use all of the above to include simulated emergencies

Performance Standards. Complete 16 of the 20 simulations successfully.

Prerequisite. KFAM-700.

BRC-232 L

Goal. Perform duties of a Radar Final Controller (RFC).

Requirement. In a radar environment, under direct supervision of an OJTI, perform duties and responsibilities of a RFC.

Performance Standards. Demonstrate proficiency required to be recommended for qualification as a RFC.

Prerequisite. BRC-230, KFAM-800 through KFAM-804, KFAM-806 through KFAM-808, and all KRFC knowledge events.

BRC-233 E L

Goal. Qualify as a Radar Final Controller (RFC).

Requirement. In a garrison or field environment, under direct supervision and in compliance with established NATOPS evaluation criteria, apply knowledge and procedures in a safe, orderly, and expeditious manner while on the RFC position.

(1) Provide instructions necessary for an aircraft to conduct an ASR/PAR/PALS approach.
(2) When required, monitor/observe approaches as specified in FAA 7110.65.
(3) Conduct other duties assigned by the Radar Supervisor.
(4) Conduct other duties outlined in the local Facility Directive.

Performance Standards. Pass an OJT exam demonstrating knowledge and proficiency as a Radar Final Controller.

Prerequisite. BRC-232.

133. CORE SKILL ADVANCED TRAINING

1. General

a. This phase introduces MACCS integration, functions and capabilities MATC brings to the MACCS, to include advanced ATC facility management and airspace management concepts. Experience in the MACCS is gained by serving with a MATCD in support of the MAGTF. Operational planning, logistics and embarkation considerations are introduced. The officer qualifies as an MMT Leader, serves as MATCD WC, and/or a MATC FWO. Personnel being trained in the Core Skill Advanced phase are those Marines a commanding officer feels are capable of directing the actions of subordinates during wartime scenarios. Upon completion of the Core Skill Advanced phase, the MATCO will be prepared for follow-on training as a MATCFO or MATCD Commander.

b. Core Skill Advanced Stages

(1) Crew Management (CMT).
(2) Battle Management (BMT).
(3) MATC Mobile Team (MMT).

2. Crew Management (CMT) Training

a. Purpose. To develop advanced knowledge of management techniques and procedures required leading and supervising an ATC crew.

b. Administrative Notes. Training in this stage may be conducted simultaneously with prerequisite qualifications, QUAL-624 and QUAL-633.

c. Prerequisite. QUAL-624 Tower Ground Controller and QUAL-633 Radar Final Controller.

d. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

e. Live and Simulator Event Training. 3 events.

CMT-340 L

Goal. Conduct an MATC standard facility crew brief.

Requirement. In a standard watch/crew meeting conduct a crew brief.

Performance Standards. Successfully accomplish a crew brief identifying appropriate issues and outlining current situation.

Prerequisite. KFAM 800, KFAM 801, KFAM 804 and KFAM 809.

CMT-341 L

Goal. Perform duties as an ATC Facility Watch Officer (ATCFWO).

Requirement. Perform duties of an ATCFWO at a MCAS per NAVAIR 80T-114.

Performance Standards. Pass an FWO exam with minimum score of 80%.

Prerequisite. BTC-224 and BRC 233.

CMT-342 L

Goal. Perform as an Assistant ATC Facility Officer (AATCFO).

Requirement. During an operation or a field exercise, and under the direct supervision of a qualified ATCFO, perform the duties and responsibilities of an AATCFO. Demonstrate proficiency in:

(1) Crew management.
(2) Control judgment.
(3) Traffic management.
(4) Operating procedures and methods.
(5) Coordination and communication.
(6) NOTAMS.
(7) Flight schedules/ATO.
(8) Airfield status.
(9) Equipment.

Performance Standards. Pass an FWO exam with minimum score of 80%.

Prerequisite. KFAM-809, KFAM-810, BTC-224 and BRC-233.

3. Battle Management (BMT) Training

a. Purpose. To develop intermediate knowledge of tactical requirements in an ATC environment.

b. Prerequisite. BRC 233 and BTC 224.

c. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

d. Live and Simulator Event Training. 17 events.

BMT-357 L

Goal. Configure the Control and Communications Subsystem (AN/TSQ-131) for operations.

Requirement. Properly utilize all equipment in the AN/TSQ-131. Operate the four modes available to the MATCALS operator:

(1) Arrival/Departure Controller (ADC).

(2) Final Controller (FC).
(3) Maintenance (MT).
(4) Train in the AN/TSQ-131, to include:
    (a) Console modes available (basic, operational, and utility).
    (b) System parameters (functional limits, compile-time parameters).
    (c) Concurrent and redundant software modules.
    (d) Control and Communications Subsystem (CCS) operational program interface.
    (e) Software architecture.
    (f) System turn-on procedures.
    (g) System initialization.
    (h) Local/remote Magnetic Tape Unit (MTU) loading.
    (i) Entering system initialization.
    (j) System readiness check-off.
    (k) System performance monitoring.
    (l) Operator Control Unit (OCU) procedures/capabilities.
    (m) Data entry tools (Fixed Action Buttons [FAB], Variable Action Buttons [VAB], keyboard, and graphic tablet).
    (n) Console mode menu trees.
    (o) Equipment list.

Performance Standards. Operate above listed equipment with 80% accuracy. Although not a requirement, completion of the MATCD Course (N2473H1) will fulfill this event.

Prerequisite. BRC-231.

BMT-358 L/S

Goal. Develop an ACO utilizing the Airspace Deconfliction System (ADS) within TBMCS.

Requirement. Using the ADS in a TACC or Joint Air Operations Center (JAOC), develop and generate the ACO, to include:

(1) Set up ADS for entering airspace user requirements and retrieving information.
(2) Enter airspace user requirements into ADS and identify conflicts.
(3) Resolve conflicts using ADS.
(4) Generate an ACO.
(5) Understand the Airspace Coordinating Means Request (ACMREQ) process.
    (a) Complete an ACMREQ.
    (b) Submit request through the appropriate channels.
    (c) Ensure Airspace Coordination Measure (ACM) appears in ACO.

Performance Standards. Perform duties with 100% accuracy.

Prerequisite. KFAM-705 and Secret Level Clearance.

BMT-359 L/S

Goal. Understand the Air Tasking Order (ATO) and fields in a standard message set.

Requirement. Execute operations using information in the ATO.

Performance Standards. Pass a performance test with a minimum score of 80%.

Prerequisites. KFAM-704 through KFAM-707, KFAM-712 and KFAM-714.

BMT-360 L/S

Goal. Describe airspace and ATC considerations in regard to the Federal Aviation Administration (FAA).

Requirement. Interact with the civil aviation community. Describe or complete the following in regard to airspace and ATC considerations and the FAA:

(1) Status of MATC equipment systems.
(2) Operational tempo of civilian flights within local airspace.
(3) Liaison with FAA MATC representatives.
(4) Information flow between civilian and military MATC personnel.
(5) Control measures to deconflict military/civilian aircraft.

Performance Standards. Pass a performance test with a minimum score of 80%. Complete a MAPP study and produce a recommended course of action for SUA to include MTR's etc. This event can be accomplished upon completion of the Airspace Managers Course.

BMT-361 L/S

Goal. Introduce airspace and MATC considerations with regard to the International Civil Aviation Organization (ICAO).

Requirement. Describe or complete the following in regard to airspace and MATC considerations and the ICAO:

(1) Status of sovereign nation ATC system.
(2) Operational tempo of civilian flights.
(3) Liaison with sovereign nation's ATC representatives.
(4) Information flow between civilian and military ATC personnel.
(5) Control measures to deconflict military/civilian aircraft.

Performance Standards. Pass an exam with a minimum score of 80%.

BMT-362 L/S

Goal. Develop plans for MATCD services in support of a FOB.

Requirement. Given a tactical scenario, identify the level of security, types of aircraft; lift assets, location and support agencies associated with (refer to MAWTS-1 ASP):

(1) Main Base.
(2) Air Facility.
(3) Air Site.
(4) Air Point.
    (a) FARP.
    (b) Lager Point.

Performance Standards. Develop an LOI or complete a MAPP for a MATCD that identifies requirements for the four types of FOBs.

BMT-363 L/S

Goal. Understand communications planning.

Requirement. Review and understand a communications plan, ACEOI, Annex K of an operations order/plan.

(1) Participate in communication planning for a MACCS training evolution.
(2) Use Annex K and ACEOI to develop the MATCD Communications Plan for a MACCS Exercise.

Performance Standards. Identify appropriate nets required to operate as a MATCD within the MACCS. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-700.

External Syllabus Support. MACCS training exercise.

BMT-364 L/S

Goal. Prepare, request and supervise a flight inspection/ certification for a MCAS or MATCD.

Requirement. Supervise a flight inspection/certification of MCAS or MATCD ATC equipment. Perform or describe the following:

(1) Request a flight inspection from the appropriate agency.
(2) Certify NAVAID/radar operational status.
(3) Certify instrument flight procedures the NAVAID/radar supports.
(4) Conduct pre/post flight check briefs with designated flight
(5) Check crew.
(6) Tactical flight check profiles associated with permissive, and restrictive environments.
(7) Approving authority.

Performance Standards. Complete an FAA Flight Check Certification.

External Syllabus Support. FAA Flight Check aircraft.

BMT-365 L

Goal. Perform as a MATCD Watch Commander (WC).

Requirement. During an operation or a field exercise perform the duties and responsibilities of a WC.

Performance Standards. Demonstrate knowledge and proficiency in:

(1) Crew management.
(2) Maintain current status of BDZ if in a tactical environment.
(3) MACCS information flow.

(4) Interface with external MACCS agencies.
(5) Control judgment.
(6) Traffic management.
(7) Operating procedures and methods.
(8) Coordination and communication.
(9) NOTAMS.
(10) Flight schedules/ATO.
(11) Airfield status.
(12) Equipment.

Prerequisite. BTC-224 and BRC-233.

BMT-366 L/S

Goal. Identify and execute MATCALS Electronic Protection (EP) procedures.

Requirement. In a garrison or field setting in a simulated electronic warfare environment, employ EP procedures; describe:

(1) ECCM features of MATCALS radars.
(2) EP brevity codes per Air, Land, and Sea Application Center (ALSA) Publication.
(3) Launch/recover aircraft, affect all-weather recoveries, and radar/non-radar handovers between MATC and adjacent agencies.

Performance Standards. Identify and execute EP measures with 80% accuracy.

Prerequisite. KFAM-702 and KFAM-709.

Reference. MAWTS-1 ASP, ALSA Center Publication and MCRP 3-25B.

External Syllabus Support. EA-6B.

BMT-367 L/S

Goal. Plan and employ a Base Defense Zone (BDZ).

Requirement. In a field environment, plan and employ a BDZ.

Performance Standards. Execute a BDZ to include:

(1) LAAD capabilities, limitations and requirements.
(2) Air defense priorities.
(3) Air defense control measures.
(4) ID criteria and responsibility.
(5) Rules of engagement.
(6) Integration within the MACCS.
(7) Communications planning.
(8) GBDL architecture.

Prerequisite. KFAM-701, KFAM-703, KFAM-709 and KFAM-713.

BMT-368 L

Goal. Conduct MATCALS Tactical Digital Information Link (TDL) -B and -C.

Requirement. Conduct TDL-B and -C operations to include:

(1) TDL-B initialization and monitoring.
(2) Air track processing.
(3) Special points and pointers.
(4) Orders and command type messages.
(5) Establishing and exiting TDL-B circuits.
(6) Emergency circuit exit TDL-B.
(7) Use of Filters with TDL-B.
(8) Mode II, ACLS and TDL-C.
(9) Identifying and manipulating standard symbology over a TDL-B link.

Performance Standards. Establish the below:

(1) A TDL-B link with at least one other MACCS agency.
(2) A TDL-C link with aircraft for Mode II approach.

Prerequisite. KFAM-701, KFAM-703 and KFAM-710.

External Syllabus Support. Operational TACC and/or TAOC.

BMT-369 L/S

Goal. Describe an Airspace Control Plan (ACP), Air Tasking Order/Airspace Control Order (ATO/ACO), OPTASKLINK message and Special Instructions (SPINS).

Requirement. Extrapolate information from the ATO/SPINS, ACO, and OPTASKLINK. Utilize the information in an ATO/ACO, OPTASKLINK message and SPINS to:

(1) Schedule appropriate number of position qualified controllers.
(2) Schedule student controller training.
(3) Manipulate the ATO/ACO into a flight schedule for MMATCD use.
(4) Reporting unit responsibilities.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-703.

BMT-370 L

Goal. Understand VMU system and capabilities of a VMU squadron.

Requirement. Demonstrate knowledge of the VMU to include:

(1) Asset location.
(2) Remote receiving station (RRS).
(3) Ground control station (GCS) including remote capabilities.
(4) Launch and recovery site location.
(5) Capabilities and limitations to include:
    (a) Missions.
    (b) Endurance.

(c) Radius of action.
(d) Sensors.
(e) Acoustic signature.
(f) Weather.
(g) Personnel requirements.
(6) Vulnerabilities to include SAM, AAA, and electronic warfare.
(7) Airspace management considerations.

Performance Standards. Pass an exam with a minimum score of 80%.

BMT-371 S

Goal. Conduct MATC operations in an NBC environment.

Requirement. In a simulated NBC environment, perform MATC functions while operating MATCD equipment.

Performance Standards. While in MOPP IV, provide for the safe, orderly, and expeditious movement of air traffic, in either radar or tower environment.

Prerequisite. KFAM-700.

External Syllabus Support. Voice amplifier.

BMT-372 L/S

Goal. Conduct rear area security planning.

Requirement. Design and implement a rear area security plan for the MATCD.

Performance Standards. With the aid of references, successfully apply concepts and terminology common to the conduct of rear area security operations to include:

(1) Describe the fundamentals and interrelationships between:
(a) Combat Service Support Operations Center (CSSOC).
(b) Rear Area Operations Center (RAOC).
(c) Tactical Security Officer (TSO).
(d) Assistant TSO (ATSO).
(e) Patrol Leader (PL).
(f) Roving Patrol/Reaction Team.
(g) Sentry Posts (SPs).
(h) Observation Posts (OPs).
(i) Listening Posts (LPs).
(2) Plan for and be prepared to execute passive and active security measures for a MATCD based on current threat assessments given minimum reliance on the GCE and RAS effort is proportionate to the threat:
(a) Identify passive measures.
(b) Dispersion and camouflage.
(c) Hardening of sites and installations.
(d) Establishment of defensive plans and positions to include appropriate local barriers and obstacles and fire plans.
(3) Position rear area organizations for mutual support:

(a) Identify active measures.
(b) Patrol and establish OPs, LPs, security checkpoints, and other local security measures.
(c) Convoy security.
(d) Position any available air and anti-mechanical defenses within the rear area.
(e) Provide defensive fire plans to the RASC.
(f) Establish and coordinate security and security reaction forces within rear area units and geographical rear area zones.
(g) Establish defensive plans and positions to include appropriate local barriers and obstacles and fire plans.
(h) Train all Marines in basic infantry skills to include anti-armor and air defense.

(4) Account for general contingencies:
(a) Enemy snipers.
(b) Enemy snipers may fire from one point, but be prepared for multiple firing points.
(c) Patrol Leader of the Roving Patrol/Reaction Team should first determine likely firing points.
(d) During the contact period, explain immediate actions to be taken.
(e) React quickly, identify likely firing position and return fire.
(f) Give a report to the TSO or ATSO.
(g) Set-up flanking points.
(h) Maintain visual contact with sniper but do not approach area previously held by the sniper (booby traps).
(i) Cover possible withdrawal areas.
(j) During the immediate follow-up period, explain immediate actions to be taken.
(k) Isolate and cordon off the area where possible.
(l) Find a position to brief on-coming leader.

(5) Develop procedures for Mob Control:
(a) Presence of a crowd may be planned or may develop into a spontaneous emotional eruption.
(b) If planned, its purpose is to degrade security.
(c) Mob action is characterized by emotion and violent action and can be highly contagious.
(d) Quickly restore order with minimum use of force while ensuring a safe escape route for the mob.

BMT-373 L/S

Goal. Develop Emission Control (EMCON) and Radar Emissions Control (RADCON) plans for an MATCD.

Requirement. Develop and implement an EMCON and RADCON plan for the MATCD, to include:

(1) Develop EMCON and RADCON plans for each NAVAID/radar system listed:
(a) AN/TRN-44, TACAN.
(b) AN/TPN-30, Marine Remote Area Approach Landing System.
(c) AN/TSQ 131(V), Control and Communication Subsystem.
(d) AN/TPN-22, All-Weather Landing Subsystem.
(e) AN/TPS-73, Surveillance radar.

(2) Demonstrate how the MATCD can reduce its vulnerability as part of an integrated air defense system to an ECM/SAM threat while employing the above listed equipment.
(3) Explain EMCON/RADCON MATC operations.
(4) Develop EMCON procedures for MATCD support of a MACCS training evolution.

Performance Standards. Successfully develop EMCON and RADCON plans during a simulated or live environment.

Prerequisite. KFAM-702, KFAM-709 and BMT-366.

External Syllabus Support. EA-6B.

4. Marine ATC Mobile Team (MMT) Training

a. Purpose. To develop advanced knowledge of MMT tactics, techniques and procedures.

b. Prerequisite. Basic qualification as Tower Ground Control and Radar Final Controller.

c. Crew Requirements. At a minimum, a core capable MMT consisting of a 6-man team.

d. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

e. Live and Simulator Event Training. 4 events.

MMT-380 L

Goal. Operate communications equipment in secure mode and frequency agile mode.

Requirement. In a garrison or field environment, communicate with other agencies using secure mode of organic radios, demonstrate the use of the following (as applicable):

(1) AN/PRC-119 VHF (FM).
(2) AN/PRC-104 HF.
(3) AN/PRC-113 UHF/VHF (AM).
(4) AN/PRC-117F SATCOM/UHF/VHF (AM/FM).
(5) KY-58,99.
(6) KIR-1C.
(7) KY-75.
(8) KYK-13.
(9) KOI-18.
(10) CYZ-10.
(11) AN/PRC-150 HF.

Performance Standards. Without assistance, successfully operate each radio system (as applicable).

Prerequisite. Lecture A-19, KFAM-700 and BTC 624.

MMT-381 L/S

Goal. Understand communications planning.

Requirement. Demonstrate knowledge of MMT information flow, communications plan, ACEOI, Annex K of an operations order/plan

(1) Participate in communication planning for a MACCS training evolution.
(2) Use Annex K and the ACEOI to develop the MATCD Communications Plan for a MACCS Exercise.

Performance Standards. Plan and execute MMT information flow for a MACCS exercise.

Prerequisite. KFAM-700.

External Syllabus Support. MACCS training exercise.

MMT-382 L

Goal. Perform as an MMT Leader.

Requirement. During an operation or training exercise, while utilizing required equipment perform as an MMT Leader:

(1) Recommend/assist in TLZ/HLZ site selection and survey.
(2) Coordinate with civil and military control agencies.
(3) Prepare personnel and equipment readiness.
(4) Conduct MMT and aircrew briefings.
(5) Insertion and extraction methods.
(6) Mark TLZ/HLZs.
(7) Planning.
(8) Personnel management.
(9) Aircrew briefings.
(10) MMT operations.
(11) MATC liaison.

Performance Standards. Successfully establish at least one day and one night HLZ and TLZ per MMT TACSOP.

Prerequisite. KFAM-704.

MMT-383 E L

Goal. Qualify as an MMT Leader in a field exercise.

Requirement. During an operation/field exercise, with a qualified MMT Leader, qualify as an MMT Leader. Demonstrate proficiency in:

(1) Site selection.
(2) Personnel and equipment readiness.
(3) MMT and aircrew briefings.
(4) Insertion and extraction.

(5) Mark TLZ/HLZs.

Performance Standards. Successfully plan and execute an MMT operation as directed in a MACCS exercise.

Prerequisite. MMT-380, MMT-381 and MMT-382.

134. CORE PLUS TRAINING

1. General

a. This phase includes skills and qualifications that are not prerequisite to combat qualification or the ability to function as combat leaders, but are those for which a certain number of trained individuals or crews must be maintained to accomplish special missions or tasks. The officer is exposed to advanced MACCS integration and employment of MATCD equipment within a joint environment. The officer serves in a Marine Air Control Group (MACG) detachment on a Marine Expeditionary Unit (MEU), as a MACCS airspace management liaison for the MAGTF, and with joint/coalition forces, FAA, and International Civil Aviation Organization (ICAO), where contingency plans and operations are developed. Experience is gained as a MATCFO, MATCD commander and/or MACG MEU detachment OIC. This phase provides training such as Special Purpose MAGTF/MEF level MACCS employment, advanced MATCD tactics and comprehensive training in MACCS, MAGTF, and Joint Task Force (JTF)/Joint Forces Air Component Commander (JFACC) operations.

b. Core Skill Advanced Stages

(1) Crew Management (CMT).
(2) Battle Management (BMT).
(3) MATC Mobile Team (MMT).

2. Crew Management (CMT) Training

a. Purpose. To develop advanced knowledge of airspace and facility management techniques and procedures required leading and supervising an ATC facility.

b. Administrative Notes. Completion of this stage should ensure designation as an ATCFO.

c. Prerequisite. All 200 and 300 phase events.

d. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

e. Live and Simulator Event Training. 2 events.

CMT-440 L

Goal. Perform as a MATC Facility Officer (MATCFO).

Requirement. Perform duties and responsibilities of an MATCFO. Demonstrate proficiency in:

(1) Crew management.
(2) Control judgment.
(3) Traffic management.
(4) Operating procedures and methods.
(5) Coordination and communication.
(6) NOTAMS.
(7) Flight schedules/ATO.
(8) Airfield status.
(9) Equipment.

Performance Standards. Successfully perform all duties and responsibilities as the MATCFO.

Prerequisite. BTC-224 and BRC-233.

CMT-441 L

Goal. Introduce Terminal Instrument Procedures (TERPS).

Requirement. State the following:

(1) Purpose of TERPS.
(2) Two types of TERPS.
(3) Four segments in procedures construction.
(4) MATCD NAVAIDS.
(5) Two areas of each segment.
(6) Required obstacle clearance for each approach segment.

Performance Standards. Pass an exam with a minimum score of 80%. With aid of references, develop a minimum of two instrument approaches (precision/non-precision) for each NAVAID/radar system assigned to a MCAS or MATCD using TERPS and simulate processing it for DOD approval and publication. Completion of the TERPS course taught by the FAA meets this requirement.

3. Battle Management (BMT) Training

a. Purpose. To develop advanced knowledge of tactical requirements in a MATC environment.

b. Administrative Notes. Completion of this stage should ensure designation as a MATCD commander.

c. Prerequisite. All 200 and 300 level events.

d. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

e. Live and Simulator Event Training. 15 events.

BMT-460 L

Goal. Understand TDL operations.

Requirement. Thoroughly understand TDL operations and how they link together to form the JTAO Interface. Perform the following:

(1) Recognize what combat information is exchanged and/or forwarded on the JTAO Interface in supporting the C2 functions of the service tactical data systems.
(2) Identify characteristics and normal communication methods for a given TDL.
(3) Recognize different message types supported by JTIDS and what TDMA provides.
(4) Recognize relationship between NCS, roll call, PU, and NCT.
(5) Identify different data timing rates for TDL-A, -B, -C, and ATDL-1.
(6) Recognize advantages of JTIDS when compared to TDL-A, -B, -C, and ATDL-1.
(7) Identify the four categories of equipment, which comprise a representative tactical data system equipment configuration for TDL-A, -B, -C, and ATDL-1.
(8) Recognize the six modes of operation for a Data Terminal Set.
(9) Identify the four main sections of the JTIDS Class 2 terminal.
(10) Recognize different Key Generators (KG) employed in tactical data system equipment configurations for TDL-A, -B, ATDL-1, and JTIDS.
(11) Recognize how shared situational awareness is provided through the process of forwarding.
(12) Recognize interfacing units on TDL-A, -B, and -J.
(13) Identify the term Supporting Unit (SU), and know which TDL subscribers would normally operate as an SU.
(14) Recognize functions provided by an FPU, FRU, and FJU.
(15) Recognize the different forwarding rules for the JTAO Interface.
(16) Identify key publications that describe the process of forwarding data via TDL-A, -B, and -J in the JTAO interface.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-701, KFAM-703 and KFAM-710.

BMT-461 L

Goal. Understand the TBMCS Advanced Planning System (APS).

Requirement. Describe the following as it relates to the APS:

(1) Significance of importing planning data.
(2) Purpose of Setup Planning Data in APS.
(3) Requirements for building external requests.
(4) Means of gaining situational awareness.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-705.

BMT-462 L

Goal. Operate within a TAOC.

Requirement. Work within a TAOC during an exercise or operation.

Performance Standards. Describe the functions and leadership positions within the TAOC.

Prerequisite. MAWTS-1 ASP.

BMT-463 L

Goal. Operate within a DASC.

Requirement. Work within a DASC during an exercise or operation.

Performance Standards. Describe functions and leadership positions within the DASC.

Prerequisite. MAWTS-1 ASP.

BMT-464 L

Goal. Operate within LAAD.

Requirement. Work within LAAD during an exercise or operation.

Performance Standards. Describe the functions and leadership positions within LAAD.

Prerequisite. MAWTS-1 ASP.

BMT-465 L

Goal. Understand Integrated Combat Airspace Command and Control.

Requirement. Understand the Integrated Combat Airspace Command and Control System. Demonstrate knowledge and proficiency to include:

(1) Mission of the Joint Force Commander.
(2) Airspace control authority (ACA) to include:
    (a) Assignment.
    (b) Responsibilities.
    (c) Integration with sovereign nation's MATC.
(3) Development of the airspace control plan.
(4) Area Air Defense Commander (AADC) to include relationship with the ACA.
(5) Joint Force Air Component Commander (JFACC).
(6) Component commands.
(7) Operation Concept for Integrating Combat Airspace Command and Control to include top-down guidance and direction, modular system, and the delegation of authority to service/functional components.

(8) Function of the Joint Aerospace Cell (JAOC).
(9) Airspace control boundaries to include, airspace control area, airspace control sector.
(10) Airspace control plan and airspace control order.
(11) Aerial air defense plan and tactical operational data.
(12) Air Force Theater Air Control System to include function of:
  (a) Air Operations Center (AOC).
  (b) Control and Reporting Center (CRC).
  (c) Forward Reporting Post.
  (d) Modular Control Equipment.
  (e) Air Support Operation Center (ASOC).
  (f) Tactical Air Control Party.
  (g) Airborne elements of the ABCCC/AWACS/JSTAR.
(13) Army Airspace Command and Control System to include the function of the Army Air Ground System and Battlefield Coordination Element.
(14) Naval airspace command and control systems to include composite warfare commander concept, delegation of authority, CWC coordinating staff, and integration with air defense.
(15) Agencies with which the MACCS will interface.
(16) TADIL interface capabilities between all platforms and agencies between the participating services.

Performance Standards. Pass an exam with passing score of 80%.

Prerequisite. KFAM-705 through KFAM-708; KFAM-711 through KFAM-715.

External Syllabus Support. Joint Air Tasking Order Process Course (JATOPC) and Joint Air and Space Operation Center (JAOC) Initial Qualification Course.

BMT-466 S

Goal. Deploy a MATCD through a planning problem.

Requirement. Successfully deploy an MATCD to include all MATC and maintenance assets. Demonstrate proficiency in:

(1) Initial planning conference.
(2) Simulate procedures to schedule a flight check.
(3) Site selection.
(4) Determine defensive posture.
(5) Schedule follow-on planning conferences.
(6) Publish an LOI.
(7) Develop Marine Simulation Event List (MSEL), if applicable.
(8) Develop a communication plan to include:
  (a) Frequency request for radars, NAVAIDS, and radios.
  (b) Telephone line request.
(9) Maintenance/supply support.
(10) Plan logistical support to include:
  (a) Advanced/main body arrival dates.
  (b) Advanced/main body retrograde dates.
  (c) Medical support.
  (d) Messing facilities.
  (e) Quarters.
  (f) Administrative support.
(11) After action reports (MCLLS) and debrief items.

(12) Tactical Aircraft Mission Planning System (TAMPS).
(13) TBMCS.
(14) Successfully plan the employment of a MATCD in a MACCS training evolution, including all the above listed requirements. The actual employment may be either real or notional.

Performance Standards. Deploy a MATCD during a simulated or actual exercise.

Prerequisite. KFAM-704.

External Syllabus Support. MACCS training/operational event.

BMT-467 L

Goal. Be proficient in planning, execution and debrief of a simulated exercise.

Requirement. Demonstrate proficiency in the planning, execution and debrief of MACCS Integrated Systems Training Exercise (MISTEX), Joint Services Tactical Exercise (JSTE), or Naval Expeditionary Force Exercise (NEFEX). Perform a MACCS Integrated Systems Training Exercise (MISTEX), Joint Services Tactical Exercise (JSTE), or Naval Expeditionary Force Exercise (NEFEX) utilizing the following:

(1) TBMCS.
(2) Utilize the CAFMS and APS systems in TBMCS.
(3) TAMPS.

Performance Standards. Clearly describe all phases of a simulated exercise by passing an exam with a minimum score of 80%.

Prerequisite. KFAM-701 and KFAM-710.

BMT-468 L

Goal. Perform as an MATC Liaison Officer.

Requirement. Provide liaison with other military/civil MATC agencies and other MACCS and aviation units.

Performance Standards. Perform MATC liaison duties during a MACCS exercise/SIMEX, or as appropriate. Describe MATC responsibilities and duties to other MACCS or civilian MATC agencies.

Prerequisite. BTC-224, BRC-233 and MMT-382.

External Syllabus Support. Operational MACCS agencies or appropriate civilian MATC agency.

BMT-469 L/S

Goal. Perform as a member of the ACE planning staff.

Requirement. In a tactical exercise, assist in planning and airspace management for a MEU, MEB, MEF or Special Purpose MAGTF.

Performance Standards. Assist in planning airspace management during an exercise/operation.

Prerequisite. MMT-382, KFAM-705 through KFAM-708, and KFAM-711 through KFAM-715.

BMT-470 L

Goal. Introduce fundamental principles of theater missile and air defense planning.

Requirement. With aid of references, apply concepts and terminology common to the integration of joint assets into a theater missile and air defense system. Identify who is responsible for conducting theater missile and air defense, specific responsibilities, missile and air defense agencies of joint forces and considerations for employment to include:

(1) Describe who is normally appointed the Area Air Defense Commander (AADC).
    (a) Identify criteria used to normally appoint the AADC.
    (b) Identify which components will normally be designated the theater AADC.
    (c) Know the basic responsibilities of the AADC.
    (d) Identify the AADC basic responsibilities.
(2) Know the Theater Missile and Air Ground defense agencies and their functions:
    (a) Given a Theater Air Ground System air defense agency, select its air defense function.
    (b) Identify the objectives of Theater Missile Defense (TMD).
    (c) Identify the four operational elements of TMD.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-711 through KFAM-715, Completion of ACC Joint Air Operations Staff Course (JAOSC: F19L2W2) meets this requirement.

External Syllabus Support. MACCS MISTEX or operational joint environment.

BMT-471 L/S

Goal. Execute phases, inputs, processes and outputs of ATO cycle.

Requirement. With aid of references, participate in the phases, inputs and processes of building and executing an ATO to include:

(1) Understand the process of building an ATO. List, in order, the five phases of the ATO cycle that normally relate to ATO development in a typical Joint Air Operations Center (JAOC) Combat Plans.
(2) Understand the relationship of inputs and outputs, match them with the appropriate phases of a single ATO cycle:
    (a) Identify key inputs and outputs of a single ATO cycle.
    (b) Identify outputs of a single ATO as inputs to the appropriate phase of a future ATO.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. Although not required, recommend completion of JAOC Course.

External Syllabus Support. MACCS MISTEX or operational joint environment.

BMT-472 L/S

Goal. Develop an Airspace Control Plan (ACP) for joint combat operations.

Requirement. Aid in development of an ACP in support of an operation/exercise. With the aid of references, write a theater ACP providing airspace control procedures for airspace users, operations planners, and airspace control personnel to include:

(1) Comprehend planning considerations in designating BDZs and understand how to develop and apply BDZ departure and recovery procedures when writing an ACP:
    (a) Identify factors that should be considered in developing BDZ departure and recovery procedures.
    (b) Designate those air bases in the Area of Responsibility (AOR) that will have BDZs and develop departure and recovery procedures.
(2) Comprehend the parameters necessary to have an effective method of getting friendly aircraft through friendly air defense areas and apply them when writing an ACP.
(3) Identify parameters used for developing Minimum Risk Routes (MRRs).
(4) Comprehend and apply the planning considerations in designating a coordinating altitude.
(5) Identify parameters used in developing coordinating altitude.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM 705. Although not required, recommend completion of JAOSC Course.

External Syllabus Support. MACCS MISTEX or operational joint environment.

BMT-473 L/S

Goal. Develop the ACO for joint combat operations.

Requirement. Create an ACO utilizing information provided by higher headquarters. Write the theater ACO employing Airspace Coordinating Measures (ACMs), Fire Support Coordination Measures (FSCMs), Air Defense Procedures and standard procedures graphics to include:

(1) List airspace user requirements and identify major factors to consider when deconflicting combat airspace requirements.

(2) Identify major factors to consider when deconflicting airspace requirements.
(3) Identify the various airspace user requirements for each Service.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-705. Although not required, recommend completion of JAOC Course.

External Syllabus Support. MACCS MISTEX or operational joint environment.

BMT-474 E L

Goal. Perform in an operational billet in the TACC.

Requirement. In a field environment, integrate and operate as a member of a crew in a TACC. Perform the following:
(1) Utilize the TBMCS.
(2) Fill appropriate TACC billet.

Performance Standards. Achieve qualification rating according to TACC T&R standards.

Prerequisite. KFAM-705.

4. MACS Mobile Team (MMT) Training

a. Purpose. To develop advanced knowledge of MMT tactics and procedures.

b. Prerequisite. Be qualified as an MMT Leader (MMT-383).

c. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

d. Live and Simulator Event Training. 1 event.

MMT-480 L

Goal. Perform as an MMT Liaison Officer.

Requirement. Perform MMT liaison duties during a MACCS exercise/SIMEX, or as appropriate, demonstrate knowledge of responsibilities and duties to other MACCS or civilian agencies.

Performance Standards. Provide liaison with other military/civil agencies and other MACCS and aviation units.

Prerequisite. KFAM-708, BTC-224, BRC-233 and MMT-383.

External Syllabus Support. Operational MACCS agencies or appropriate civilian agency.

140. INSTRUCTOR (INST) TRAINING

1. Purpose. Consideration for qualification as a WTI-Air Control or MMT Leader Instructor this phase of training must be complete.

a. Administrative Notes. This phase includes graduate level MACCS curriculum at the Weapons Tactics Instructors (WTI) Course and syllabus events. Instructor certification requirements are delineated by the Commanding Officer of MAWTS-1 and detailed in the approved MAWTS-1 guides.

b. Prerequisite. The officer must be experienced enough to be able to instruct others in the MATC leadership and supervisory functions of this syllabus.

c. Academic Training. Attend appropriate formal schools as noted in event prerequisite.

d. Instructor Qualifications

(1) Weapons and Tactics Instructor (WTI)-Air Control.
(2) Marine MATC Mobile Team (MMT) Leader Instructor.

e. Live and Simulator Event Training. 2 events.

INST-500

Goal. Qualify as a Weapons Tactics Instructor (WTI)-Air Control.

Requirement. See MAWTS-1 Course Catalog for requirements and additional guidance.

Performance Standards. Graduate from the WTI Course and be certified by MAWTS-1 as a WTI. Upon completion, the officer is designated as a WTI and is assigned secondary MOS 7277.

INST-501

Goal. Qualify as MMT Leader Instructor.

Requirement. See MAWTS-1 Course Catalog for requirements and additional guidance.

Performance Standards. Graduate the MMT Course and be certified by MAWTS-1 as an MMT Leader Instructor.

150. QUALIFICATIONS AND DESIGNATIONS

1. General

a. This phase contains tracking codes and events designed to facilitate training management. This level also provides community standardization for combat leadership designation.

b. The 600-level stages are known as Qualifications and Designations.

c. The controller must be experienced enough to successfully provide MATC leadership and supervision in the ATC community.

2. MATC Officer Qualifications

a. Qualification codes do not constitute events themselves. Rather, they will be logged upon completion of qualification requirements; signing of the qualification letter by the commander, filing the letter in the MACCS performance record and other administrative actions taken as appropriate. Requirements for maintaining qualifications are detailed in the Aviation T&R Program Directive. Refer to Core Skills and Core Plus phases for qualification requirements.

b. Tower Ground Control (TGC) qualification. An MATCO is TGC qualified upon completion of required Core Skill Basic phase events. An entry shall be made in the individual MACCS performance record stating the qualification.

c. Radar Final Controller (RFC) qualification. An MATCO is RFC qualified upon completion of required Core Skill Basic phase events. An entry shall be made in the individual MACCS performance record stating the qualification.

d. Marine MATC Mobile Team (MMT) Leader qualification. An MATCO is certified as a MMT Leader upon completion of required Core Skill Advanced phase events. A letter shall be inserted in the individual MACCS performance record stating the qualification.

e. Tracking Training Events. 3 events.

QUAL-600

Goal. Qualify as a WTI-Air Control.

Prerequisite. INST-500.

QUAL-624

Goal. Qualify as a MMT Leader Instructor.

Prerequisite. INST-501.

QUAL-624

Goal. Qualify as a Tower Ground Controller.

Prerequisite. BTC-224.

QUAL-633

Goal. Qualify as a Radar Final Controller.

Prerequisite. BRC-233.

Qual-683

Goal. Qualify as an MMT Leader.

Prerequisite. MMT-383.

3. MATC Officer Designations

a. Designation codes do not constitute events themselves. Rather, they will be logged upon being designated by the commanding officer or a direct representative in writing and other administrative actions taken as appropriate; the designation letter shall be filed in the MACCS performance records. Requirements for designations are detailed in the Aviation T&R Program directive.

b. Marine Air Traffic Control Detachment (MATCD) Commander designation. A MATCO is designated as an MATCD Commander by the commanding officer or a direct representative. A letter shall be inserted in the individual MACCS performance record stating the designation.

c. Air Traffic Control Facility Officer (ATCFO) designation. An MATCO is designated as an ATCFO by the commanding officer or a direct representative. A letter shall be inserted in the individual MACCS performance record stating the designation.

d. MATC Watch Commander (WC) designation. The MATCD commander upon completion of required Core Skill Basic phase events designates an MATCO as a WC. A letter shall be inserted in the individual MACCS performance record stating the designation.

e. Facility Watch Officer (FWO) designation. An MATCO is designated as a FWO by the ATCFO while completing required Core Skill Basic phase events. A letter shall be inserted in the individual MACCS performance record stating the designation.

f. Weapons Tactics Instructor (WTI) Designation. An MATCO is designated as a WTI by the commanding officer or a direct representative. Completion of INST-500 is required. A letter shall be inserted in the individual MACCS performance record stating the designation.

g. MATC Mobile Team (MMT) Leader designation. A controller is designated as an MMT leader by the commanding officer or the MATCD commander. Completion of QUAL-683 or INST-501 is highly recommended. A letter shall be inserted in the individual MACCS performance record stating the designation.

h. Tracking Training Events. 7 events.

DESG-600

Goal. Designate as WTI.

Prerequisite. INST-500.

DESG-601

Goal. Designate as MMT Leader Instructor.

Prerequisite. INST-501 or Qual-683.

DESG-640

Goal. Designate as ATCFO.

Prerequisite. CMT-440.

DESG-642

Goal. Designate as ATCFWO.

Prerequisite. BTC-224, BRC 233, and CMT-342.

DESG-665

Goal. Designate as MATCD WC.

Prerequisite. BMT-365.

DESG-677

Goal. Designate as MATCD Commander

Prerequisite. BMT-477.

DESG-683

Goal. Designate as MMT Leader.

Prerequisite. QUAL-683.

160. TACTICAL KNOWLEDGE TRAINING REQUIREMENTS

1. Purpose. The 700-level events provide knowledge required for the successful completion of events located in the phases/stages of training in this syllabus.

2. Academic Training. All knowledge events must be tested and passed using a written or oral exam with a minimum score of 80%.

3. Live and Simulator Event Training. 16 events.

KFAM-700

Goal. Operate MATCD communication assets and identify their capabilities.

Requirement. In a garrison or field setting, demonstrate knowledge of and operate MATCD communication assets and demonstrate its capabilities to include:

(1) VHF/UHF/HF/FM radios and corresponding control positions.
(2) Communication equipment associated with the AN/TSQ-120, AN/TSQ-216 and AN/TSQ-131.
(3) Encryption capabilities and COMSEC procedures.

Performance Standards. Establish a two-way communication link using at least two different types of radio equipment and perform a radio check in both secured and unsecured modes.

KFAM-701

Goal. Identify standard data link symbology.

Requirement. Identify and manipulate standard symbology over a TDL-B. The exercise should include friendlies, hostiles, unknowns and pending.

Performance Standards. Visually identify data link symbology with a minimum of 80% accuracy.

KFAM-702

Goal. Describe Electronic Warfare (EW).

Requirement. Utilize proper EW procedures. Recognize EW activity and demonstrate:

(1) Joint Interference reporting as it applies to the following MATC equipment:
    (a) AN/TSQ-120.
    (b) AN/TRN-44.
    (c) AN/TPN-30.
    (d) AN/TSQ-131.
    (e) AN/TPS-73.
    (f) AN/TPN-22.
(2) Knowledge of the following EW categories:
    (a) Electronic Protection (EP).
    (b) Electronic Attack (EA) techniques.
    (c) Electronic Support (ES) techniques.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-703

Goal. Describe Operational Data (OPDAT) message preparation and use.

Requirement. Describe an OPDAT message (refer to JCS Pub 12, Vols 1-4, JTAO Procedural Handbook, and OPDAT), to include:

(1) Locate OPDAT message in JCS PUB 12, Vols. 1-4 and JTAO Procedural Handbook.
(2) Complete OPDAT message using supplied parameters.
(3) Identify parts of OPDAT message that relate to TDL-B.
(4) Identify information contained within each part relating to TDL-B and how it is applied to the JTAO interface.
(5) Identify parts of OPDAT message that relate to interface duties, areas of responsibility and zones of airspace responsibility.
(6) Identify three ways OPDAT expresses locations, areas of responsibility and zones of airspace management.
(7) Identify the OPDAT part dealing with encryption references.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-704

Goal. Describe phasing control ashore.

Requirement. Describe in detail phasing control ashore to include:

(1) Phases in the process.
(2) MACCS agency actions that define each phase.
(3) Primary communication links between agencies.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-705

Goal. Describe the Airspace Deconfliction System (ADS).

Requirement. Describe the purpose and JAOC users of ADS, including its functions and capabilities.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-706

Goal. Describe the Joint Air Operation Center (JAOC).

Requirement. Describe the JAOC to include:

(1) Primary mission and elements of the JAOC.
(2) Responsibilities of each JAOC Division/element to include:
    (a) Combat Operations Division.
    (b) Combat Plans Division.
    (c) Strategy Division.
    (d) Air Mobility Division.
    (e) Liaison personnel within the JAOC.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-707

Goal. Understand C2 of USMC TACAIR in joint operations.

Requirement. Understand and explain Marine aviation C2 in a joint environment, to include:

(1) Terminology utilized during joint operations.
(2) Chain of command in joint operations.
(3) Joint land operations command relationships.
(4) Coordination measures and areas for fire support.
(5) Definition and explanation of the Omnibus agreement in relation to USMC TACAIR.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-708

Goal. Understand Command and Control Warfare (C2W).

Requirement. Explain the five pillars of C2W. Refer to MAWTS-1 ASP, JCS MOP 185 C3CM, FMFM 3-1, OPNAVINST 5510.1, and MCO 5600.20.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-709

Goal. Understand Anti-Radiation Missiles (ARM) Countermeasures for MACCS units.

Requirement. Properly utilize ARM countermeasures within the MACCS. Describe ARM Countermeasures for MACCS to include:

(1) Ground rules for determining the effectiveness of ARM countermeasures.
(2) Elements considered when preparing EMCON plan.
(3) Measures to reduce the effectiveness of an ARM threat.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-710

Goal. Understand JTAO interface.

Requirement. Thoroughly understand JTAO interface, and key service Air Command, Control, Communications, and Intelligence (C3I) systems. Perform the following:

(1) Select the correct definition for JTAO Interface.
(2) Recognize the correct definitions for defensive counter air operations.
(3) Identify JTAO related terms with their definitions.
(4) Select the data link, which represents the normal connectivity between two air C3I units.
(5) Select the correct description for a given TDL.
(6) Identify the correct description of a key air C3I unit.
(7) Identify which TDLs use point-to-point and which use netted communications.
(8) Identify the three categories of tactical air information shared on a JTAO Interface.

(9) Recognize the correct definitions for centralized and decentralized air defense operations.
(10) Identify the three features that best describe each TDL.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-711

Goal. Understand the Theatre Air Ground System (TAGS).

Requirement. Demonstrate knowledge of the U.S. Air Force operational facilities and units that comprise the TAGS. Address the organization, roles, capabilities and limitations of these facilities and how they participate in and contribute to the JTAO Interface to include:

(1) Identify mission, organization, and capability of the Air Force (AF).
(2) Identify functions of the AF C4I system.
(3) Identify the organization of the AF C4I system as part of a Joint Force in JTAO.
(4) Describe the ground elements of the TACS.
(5) Define the missions and functions of the TACS.
(6) Describe command, control, and communications equipment associated with TAGS.
(7) Identify TAGS communications connectivity required for JTAO interface.
(8) Describe radar equipment and assets of the TAGS.
(9) Define the mission and functions of the Air Operations Center (AOC).
(10) Describe the peacetime and wartime organization of the AOC.
(11) Define the capabilities of the AOC.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-712

Goal. Understand Airborne Elements of the Air Control System (AEACS).

Requirement. Demonstrate knowledge of the Air Force (AF) operational systems and units that comprise the AEACS. Address the organization, roles, capabilities and limitations of these facilities and how they participate in and contribute to the JTAO Interface to include:

(1) Describe missions, organization and capabilities of the AF.
(2) Identify functions of the AF C4I system.
(3) Identify the organization of the AF C4I system as part of a Joint Force in JTAO.
(4) Identify aircraft associated with AEACS.
(5) Describe missions and functions of the AEACS.
(6) Describe crew composition for AEACS aircraft along with operator duty positions.
(7) Identify radar equipment used by AEACS aircraft.
(8) Describe communications equipment used by AEACS.
(9) Describe communications interface accomplished during JTAO.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-713

Goal. Understand the Army Air Defense Command and Control System (AADCCS).

Requirement. Demonstrate knowledge of the U.S. Army operational facilities, systems, and units, which comprise the AADCCS. Address the organization, roles, capabilities, and limitations of these facilities, and how they participate in and contribute to the JTAO Interface to include:

(1) Describe AADCCS's contribution to JTAO.
(2) Define operational capabilities of AADCCS.
(3) Describe organization of ADA units.
(4) Identify ADA equipment and data links that support the JTAO Interface.
(5) Identify key personnel in Joint Air Defense Operations.
(6) Describe the difference between command and control for ADA units.
(7) Define the chain of command for ADA units.
(8) Identify key elements within the ADA organization in Joint Air Defense operation.
(9) Identify the function of ADAFCO at the CRC or TAOC.
(10) Describe Corps air defense assets.
(11) Identify theater air defense assets assigned to AADC for operational control.
(12) Define PATRIOT operations with reference to the mission, capabilities and limitations.
(13) Define FAAD operations.
(14) Roles and functions of the Battlefield Coordination Detachment (BCD).
(15) Describe TDLs to various ADA systems/units.
(16) Describe key command, fire control and communications support at the brigade level.
(17) Identify AADCCS's role in Theater Missile Defense (TMD) support.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-714

Goal. Understand Special Information Systems Aircraft (SIS A/C).

Requirement. Demonstrate knowledge of SIS A/C. Describe the mission and capabilities of:

(1) E-3C Airborne Warning Control System (AWACS).
(2) E-2 Hawkeye.
(3) Rivet Joint (RJ).
(4) Joint Surveillance Target Attack Radar System (JSTARS).
(5) DASC(A).
(6) Unmanned Aerial Vehicles (UAV).
(7) EC-130 Commando Solo.

Performance Standards. Pass an exam with a minimum score of 80%.

KFAM-715

Goal. Understand the fundamental principles of Joint Combat Airspace Doctrine, Organizations and Procedures.

Requirement. With the aid of references, apply airspace control doctrine from the Joint, Multi-Service and Single Service perspective. Know the specific responsibilities and duties of the Joint Force Commander (JFC) and Airspace Control Authority (ACA), and how to develop the Airspace Control Plan (ACP) and the Airspace Control Order (ACO) to include:

(1) List the JFC and ACA airspace control responsibilities:
    (a) Select the JFC's airspace control responsibilities.
    (b) Identify the ACA's responsibilities.
(2) Understand the fundamentals of airspace control:
    (a) Identify primary goal or purpose of airspace control.
    (b) Describe use of airspace by all components.
(3) Identify organization, functions and responsibilities of the command and control elements of a joint force airspace control system. Identify the four basic functional activities that airspace command and control elements perform.
(4) Identify different methods of airspace control.

Performance Standards. Pass an exam with a minimum score of 80%.

External Syllabus Support. MACCS MISTEX or operational joint environment.

161. NON-TACTICAL KNOWLEDGE TRAINING

1. General

a. Purpose. The MATC MOS is knowledge intensive. The 800 level events contain knowledge required of all MATCOs to obtain not only for position qualifications but also core skill proficiency. There is common knowledge applicable to both the tower and radar branches of a facility. In addition, each branch has specific knowledge required for qualification.

b. Knowledge Event Abbreviations

(1) Common knowledge (KFAM).
(2) Tower Ground Control knowledge (KTGC).
(3) Radar Final Control knowledge (KRFC).

c. Administrative Note. *Should conflict exist between the training and operating procedures found in the NAVAIR 00-80T-114 and those found in other publications, the NAVAIR 00-80T-114 will govern.*

d. Prerequisite. All knowledge events in this section are a prerequisite for events throughout the syllabus. Knowledge associated with a control position will be taught and tested during student training.

e. Academic Training. All knowledge events must be tested using a written or oral exam and passed with a minimum score of 80%.

2. Common Knowledge

KFAM-800

Goal. Memorize the airfield layout.

Requirement. Draw/label from memory an airfield diagram to include the following:

(1) Runways.
    Numbering/marking.
    Length and width.
    Aircraft weight bearing capacity.
    Crash Fire Rescue standby positions.
    Windsocks (type/capacity).
    OLS positions.
(2) Taxiways.
    Length and width.
    Directional usage.
    Aircraft weight bearing capacity.
    Designation (name/number).
    Special use areas (hazardous cargo, hot brakes, ordnance load/offload, arm/dearm, etc.).
    Special routes (VIP, ordnance carrying, etc.).
    Restrictions.
(3) Helicopter landing areas/spots name, designation and restrictions.
(4) Fuel Pits.
    Number of fueling points.
    Directional usage.
    Types of fuel available.
(5) Aircraft wash rack restrictions and directional usage.
(6) Tenant aircraft parking ramps.
    Squadron assigned.
    Type of aircraft.
    Tactical call sign/MODEX.
    Hangar assigned.
    Taxi routes.
(7) Transient parking ramps.
    Restrictions.
    VIP spots.
    Taxi routes.
(8) Crash Fire Rescue location and types of vehicles.
(9) Hangars.
    Building number.
    Unit assigned.
    Special usage (if applicable).
(10) Vehicular traffic.
    Restrictions.
    Routes.
    Clearances.
    Control devices (road lights, traffic arms, etc.).
(11) Visual aids.
    Runway lights.
    Approach lights.
    Taxiway lights.
    Airfield beacon.
    Obstruction lights.

Optical landing systems.
(12) Navigation aids.
Type and channel/frequency.
Location and monitoring capability.
Compass rose.
(13) Obstructions type, height, and location on the airfield.
(14) MATC radar types and location.

Reference. Local publications and Flight Information Publications.

KFAM-801

Goal. General MATC knowledge.

Reference

(1) FAA 7110.65

Ch1	Sec1	(Introduction) General.
Ch1	Sec2	Terms Of Reference.
Ch2	Sec1	(General Control) General.
Ch2	Sec2	Forwarding Amended and UTM Data.
Ch2	Sec4	Radio And Interphone Communication.
Ch2	Sec8	Runway Visibility Reporting-Terminal.
Ch2	Sec10	Team Position Responsibilities.
Ch3	Sec1	Establishing Two-Way Communications.
Ch9	Sec1	(Special Flights) General.
Ch10	Sec1	(Emergencies) General.

(2) Glossary Terms

Additional Service.
Advisory Frequencies.
Aerial Refueling.
Affirmative.
Roger.
Wilco.
Aircraft Classes.
AirMet.
Approach Gate.
Final Approach Fix.
Final Approach Course.
Decision Height.
Overhead Maneuver.
Pilot's Discretion.
Pilot Weather Report.
Preferential Routes.
Procedure Turn.
Segment of an Instrument Approach procedure.
Short Range Clearances.
Simulated Flameout.
Missed Approach.
Tower Enroute Control Service.
Local publications.

KFAM-802

Goal. Local area/airfield specific knowledge.

Reference

(1) FAA 7110.65		
	Ch3 Sec3	Arresting System Operation.
	Ch3 Sec5	Selection.
(2) Local publications		
		Airfield Weather Minimums.
		Type Aircraft Assigned Each Local Squadron.
		Modex/Tactical Call Sign Of Each Local Sqdn.
		Traffic Patterns and NAVAID Procedures.
		Alternate/Divert Airfield.
		Adjacent Airfields.
		Airport Surface Area Description (FAA 7400.8).
		Facility Frequencies.

KFAM-803

Goal. Emergency/safety knowledge.

Reference

(1) FAA 7110.65		
	Ch2 Sec1	In-Flight Equipment Malfunctions.
	Ch2 Sec1	Minimum Fuel.
	Ch4 Sec7	Below Minima Report By Pilot.
	Ch5 Sec2	Emergency Code Assignment.
	Ch10 Sec1	(Emergencies) General.
	Ch10 Sec2	Emergency Assistance.
	Ch10 Sec3	Overdue Aircraft.
	Ch10 Sec4	Control Actions.
(2) NAVAIR 00-80T-114		
	Ch3 Sec4	Facility Operation.
	Ch3 Sec6	Security of Facilities.
	Ch3 Sec7	Aircraft Accidents and Incidents.
	Ch3 Sec8	Air Traffic Control Hazards (Operational Errors/Deviation).
(3) Local publications.		

KFAM-804

Goal. Weather knowledge.

Reference

(1) FAA 7110.65		
	Ch2 Sec6	Weather Information.
	Ch2 Sec7	Altimeter Settings.
	Ch2 Sec8	Runway Vsby Reporting-Terminal.
	Ch2 Sec9	ATIS Procedures.
	Ch3 Sec1	Low Level Wind Shear Advisories.
(2) FAA 7210.3		
	Ch12 Sec3	Instrument Operations Data.
	Ch14	Aviation Meteorological Services.

KFAM-805

Goal. Tower equipment.

Reference

(1) FAA 7110.65		
Ch2	Sec1	NAVAID Malfunction.
Ch2	Sec9	ATIS.
Ch3	Sec1	Tower Radar Displays.
Ch3	Sec2	Visual Signals.
Ch3	Sec2	Receiver Only Acknowledgment.
Ch3	Sec4	Airport Lighting.
Ch3	Sec6	Airport Surface Detection Procedures (if applicable).
(2) FAA 7210.3		
Ch3	Sec1	(Facility Equipment) General.
(3) NAVAIR 00-80T-114		
Ch2	Sec6	Airport Facilities.
Ch6	Sec2	Equipment.
		Tower Visibility Chart.
(4) MCO 3501.9		MACCS MCCRES.
(5) Local publications.		

KFAM-806

Goal. Airfield lighting.

Reference

(1) FAA 7110.65		
Ch3	Sec4	Emergency Lighting.
Ch3	Sec4	Runway End Identifier Lights.
Ch3	Sec4	VASI Lights.
Ch3	Sec4	Approach Lights.
Ch3	Sec4	ALS Intensity.
Ch3	Sec4	Sequenced Flashing Lights.
Ch3	Sec4	MALS.
Ch3	Sec4	ALSF-2.
Ch3	Sec4	Runway Edge Lights.
Ch3	Sec4	High Intensity Runway, Centerline Light.
Ch3	Sec4	HIRL Associated With MALSR.
Ch3	Sec4	HIRL Changes.
Ch3	Sec4	Medium Intensity Runway Lights.
Ch3	Sec4	Simultaneous Approach/Runway Edge.
Ch3	Sec4	High Speed Turnoff Light.
Ch3	Sec4	Taxiway Lights.
Ch3	Sec4	Obstruction Lights.
Ch3	Sec4	Rotating Beacon.
(2) FAA 7210.3		
Ch10	Sec6	Airport Lighting.
(3) NAVAIR 51-50AAA-2		All Airfield Markings.
(4) Local publications.		

KFAM-807

Goal. Strip marking.

Reference

(1) FAA 7110.65

Ch2	Sec2	Flight Plans and Control Information.
Ch2	Sec3	Flight Progress Strips.

(2) Local publications.

KFAM-808

Goal. Radar equipment.

Reference

(1) FAA 7110.65

Ch5	Sec1	Presentation and Equip/Performance.
Ch5	Sec1	Alignment Check.
Ch5	Sec1	Radar Use.
Ch5	Sec1	Beacon Range Accuracy.
Ch5	Sec1	Electronic Cursor.
Ch5	Sec2	Standby/Low Sensitivity Operation.
Ch5	Sec2	Inoperative Interrogator.
Ch5	Sec2	In-flight Deviations From Transponder.
Ch5	Sec2	Altitude Filters.
Ch5	Sec15	Automated Radar Terminal Systems (ARTS) Terminal.
Ch5	Sec16	TPX-42 - Terminal.

(2) FAA 7210.3_

Ch3	Sec1	General.
Ch3	Sec7	Radar Use.
Ch3	Sec8	Video Maps.

(3) NAVAIR 00-80T-114

Ch2		Airport Facilities.
Ch7	Sec2	Equipment.
Appendix J		OJT Performance Evaluation.
Appendix O		Precision Approach Landing System Approach Criteria.

(4) Local publications.

KFAM-809

Goal. Daily flight schedule knowledge.

Requirement. Utilize information on a daily flight schedule, include:

(1) Schedule appropriate number of position qualified controllers.
(2) Schedule student controller OJT.
(3) Identify peak arrival/departure air traffic periods.
(4) Identify number of aircraft anticipated to fly during the period.
(5) Identify the types of aircraft that will be flying.

KFAM 810

Goal. Aircraft accident/incident reporting.

Requirement

(1) Initial Response.
(2) Marking of tapes/transcribing.
(3) Security of tapes/release authorization.
(4) Controller position relief.

(5) Initiate Search and Rescue (SAR) response/updating for on-scene commander.
(6) Coordinate with appropriate agencies/officials.
(7) Required reports.
(8) Supervision of effort.

KFAM-811

Goal. Terminal Instrument Procedures (TERPS).

Requirement. Explain the purpose of TERPS to include:

(1) Two types of terminal instrument procedures.
(2) Four segments in procedures construction.
(3) ATC NAVAIDS equipment.
(4) Two areas of each segment.
(5) Required obstacle clearance for each approach segment.

3. Radar Section

KRFC-830

Goal. Phraseology/communications.

Reference

(1) FAA 7110.65

Ch2	Sec1	Wheels Down Check.
Ch2	Sec4	Radio and Interphone Communications.
Ch4	Sec2	Clearance Relay.
Ch4	Sec7	Single Frequency Approaches (SFA).
Ch4	Sec8	Communications Release.
Ch5	Sec4	Terms.
Ch5	Sec6	Methods (Vectoring).
Ch5	Sec10	Application (Radar Approaches).
Ch5	Sec10	No-Gyro Approach.
Ch5	Sec10	Lost Communications.
Ch5	Sec10	Radar Contact Lost.
Ch5	Sec10	Landing Check.
Ch5	Sec10	Position Information.
Ch5	Sec10	Final Controller Changeover.
Ch5	Sec10	Communications Check.
Ch5	Sec10	Transmission Acknowledgment.
Ch5	Sec10	Missed Approach.
Ch5	Sec10	Low Approach and Touch-and-Go.
Ch5	Sec10	Tower Clearance.
Ch5	Sec10	Final Approach Abnormalities.
Ch5	Sec10	Military Single Frequency Approaches.
Ch5	Sec11	Surveillance Approaches-Terminal.
Ch5	Sec12	Precision Approach Radar Approaches-Terminal.
Ch5	Sec13	Use of PAR for Approach Monitoring.

(2) Local publications.

KRFC-831

Goal. Clearance/coordination.

Reference

(1) FAA 7110.65

Ch3	Sec1	Low Level Wind shear Advisories.
Ch3	Sec10	Altitude Restricted Approach.
Ch4	Sec8	Circling Approach.
Ch4	Sec8	Missed Approach.
Ch4	Sec8	Low Approach and Touch-and-Go.

(2) Local publications.

KRFC-832

Goal. Separation.

Reference

(1) FAA 7110.65

Ch2	Sec1	Formation Flights.
Ch2	Sec1	Wake Turbulence.
Ch2	Sec1	Wake Turbulence Advisories.
Ch2	Sec1	Traffic Advisories.
Ch2	Sec1	Bird Activity Information.
Ch3	Sec1	Traffic Information.
Ch4	Sec5	Vertical Separation Minima.
Ch5	Sec3	ARTS/PIDP Identification Methods.
Ch5	Sec3	Questionable Identification.
Ch5	Sec4	Methods (Transfer of Radar ID).
Ch5	Sec4	Traffic (Radar Separation).
Ch5	Sec5	Application.
Ch5	Sec5	Target Separation.
Ch5	Sec5	Minima (Radar Separation).
Ch5	Sec5	Additional Separation for Formation Flights.
Ch5	Sec9	Approach Separation Responsibilities.
Ch7	Sec2	Visual Separation.

(2) Local publications.

KRFC-833

Goal. Letters of Agreement and Facility Directives/ Memos/Publications.

Reference

(1)	FAA 7220.1	Operational Position Standards.
(2)	FAA 7110.65	Air Traffic Control.
(3)	FAA 7210.3	Facility Operations.
(4)	FAA 7340.1	Contractions Directive.
(5)	FAR 91	General Operating.
(6)	AOM	Airfield Operations.
(7)	MATC FacMan	Facility Operations.
(8)	IFR Supplement.	
(9)	VFR Supplement.	
(10)	NOTAMS	General Notices.
(11)	AP1B	Military Training Routes.
(12)	LOCAL Sectional	
(13)	SECNAVINST 5216.5C	Memorandum of Understanding.
(14)	AIM	Airman's Information Directive.

(15) NAVAIR 00-80T-114

Ch3	Facility Management.
Appendix C	Sample format for FAA/USN Letter of Agreement Concerning Control of Air Traffic.
Appendix D	Memorandum of Agreement.

(16) RATCF DAIR Operator's Directive.
(17) STARS Training Directive.
(18) Low Altitude United States.
(19) High Altitude United States.
(20) Local publications.

4. Tower Section

KTGC-840

Goal. Phraseology/communications.

Reference

(1) FAA 7110.65

Ch2	Sec4	Radio and Interphone Communications.
Ch3	Sec2	Light Signals.

(2) Local publications.

KTGC-841

Goal. Clearance/coordination.

Reference

(1) FAA 7110.65

Ch2	Sec5	Route and NAVAID Description.
Ch4	Sec2	Clearance Items.
Ch4	Sec2	Clearance Prefix.
Ch4	Sec2	Delivery Instructions.
Ch4	Sec2	Clearance Relay.
Ch4	Sec2	Route or Altitude Amendments.
Ch4	Sec2	Through Clearances.
Ch4	Sec2	ALTRV Clearance.
Ch4	Sec2	IFR-VFR and VFR-IFR Flights.
Ch4	Sec2	Clearance Items.
Ch4	Sec3	Departure Procedures.
Ch4	Sec4	Route Use.
Ch4	Sec4	Route Structure Transitions.
Ch4	Sec4	Class G Airspace.
Ch4	Sec5	Flight Direction.
Ch4	Sec5	Exceptions.
Ch4	Sec5	Lowest Usable Flight Level.

(2) Local publications.

KTGC-842

Goal. Separation.

Reference

(1) FAA 7110.65

Ch3	Sec1	Provide Service.
Ch3	Sec1	Preventive Control.
Ch3	Sec1	Use of Active Runways.
Ch3	Sec1	Coordination Local and Ground.
Ch3	Sec1	Vehicles/Equipment/Personnel On Runway.
Ch3	Sec1	Traffic Information.
Ch3	Sec1	Position Determination.
Ch3	Sec1	Low Level Wind shear Advisories.
Ch3	Sec1	Observed Abnormalities.
Ch3	Sec1	Visually Scanning Runways.
Ch3	Sec3	Landing Area Condition.
Ch3	Sec3	Closed/Unsafe Runway Information.
Ch3	Sec3	Timely Information.
Ch3	Sec3	Braking Action.
Ch3	Sec3	Braking Action Advisories.
Ch3	Sec3	Arresting System Operation.
Ch3	Sec7	Ground Traffic Movement.
Ch3	Sec7	Taxi/Ground Movement Operations.
Ch3	Sec7	Ground Operations.
Ch3	Sec7	Runway Proximity.
Ch3	Sec7	Precision Approach Critical Area.
Ch3	Sec11	Taxi/Ground Movement Operation.

(2) Local publications.

KTGC-843

Goal. Letters of Agreements and Facility Directives/ Memos/Publications.

Reference

(1) FAA 7220.1		Operational Position Standards.
(2) FAA 7110.65		Air Traffic Control.
(3) FAA 7210.3		Facility Operations.
(4) FAA 7340.1		Contractions Directive.
(5) FAR 91		General Operating.
(6) AIM		Airman's Information Directive.
(7) AOM		Airfield Operations.
(8) MATC FacMan		Facility Operations.
(9) IFR Supplement.		
(10) VFR Supplement.		
(11) NOTAMS		General Notices.
(12) AP1B		Military Training Routes.
(13) Local Sectional		
(14) SECNAVINST 5216.5C		Memorandum of Understanding.
(15) NAVAIR 00-80T-114		
	Ch3	Facility Management.
	Appendix C	Sample Format for FAA/USN Letter of Agreement concerning Control of Air Traffic.
	Appendix D	Memorandum of Agreement
(16) Low Altitude United States.		
(17) High Altitude United States.		

162. EXPENDABLE ORDNANCE REQUIREMENTS. None.

170. PROFICIENCY INTERVALS. Tables 1-11, 1-12 and 1-13 contain a summary of each event code to include conditions and proficiency intervals for Core Skills Basic, Core Skills Advanced, and Core Plus levels. Again, there are no R-coded events in the MATCO syllabus thus there are no proficiency intervals.

Table 1-11.—MATCO Proficiency Interval for Core Skill Basic Training.

STAGE/EVENT	PROFICIENCY INTERVAL (Months)	CRP	R	E	CONDITIONS
BTC-220	NA	1.0	NA	NA	L/S
BTC-221	NA	2.0	NA	NA	L/S
BTC-222	NA	2.0	NA	NA	L/S
BTC-223	NA	1.0	NA	NA	L
BTC-224	NA	2.0	NA	X	L
BRC-230	NA	2.0	NA	NA	L/S
BRC-231	NA	2.0	NA	NA	S
BRC-232	NA	1.0	NA	NA	L
BRC-233	NA	2.0	NA	X	L
R = Refresher. MATCO POI does not have refresher requirements.					

Table 1-12.--MATCO Proficiency Interval for Core Skill Advanced Training.

STAGE/EVENT	PROFICIENCY INTERVAL (Months)	CRP	R	E	CONDITIONS
CMT-340	NA	0.5	NA	NA	L
CMT-341	NA	0.25	NA	NA	L
CMT-342	NA	0.25	NA	NA	L
BMT-357	NA	1.0	NA	NA	L/S
BMT-358	NA	1.0	NA	NA	L/S
BMT-359	NA	1.0	NA	NA	L/S
BMT-360	NA	0.5	NA	NA	L/S
BMT-361	NA	0.5	NA	NA	L/S
BMT-362	NA	1.0	NA	NA	L/S
BMT-363	NA	1.0	NA	NA	L/S
BMT-364	NA	1.0	NA	NA	L/S
BMT-365	NA	1.0	NA	NA	L
BMT-366	NA	0.5	NA	NA	L/S
BMT-367	NA	1.0	NA	NA	L/S
BMT-368	NA	1.0	NA	NA	L
BMT-369	NA	1.0	NA	NA	L/S
BMT-370	NA	1.0	NA	NA	L
BMT-371	NA	1.0	NA	NA	S
BMT-372	NA	1.0	NA	NA	L/S
BMT-373	NA	1.0	NA	NA	L/S
MMT-380	NA	1.0	NA	NA	L
MMT-381	NA	1.0	NA	NA	L/S
MMT-382	NA	1.0	NA	NA	L
MMT-383	NA	1.0	NA	X	L

Table 1-13.—MATCO Proficiency Interval for Core Plus Training.

STAGE/EVENT	PROFICIENCY INTERVAL (Months)	CRP	R	E	CONDITIONS
CMT-440	NA	0.25	NA	NA	L
CMT-441	NA	0.25	NA	NA	L
BMT-460	NA	0.25	NA	NA	L
BMT-461	NA	0.25	NA	NA	L
BMT-462	NA	0.25	NA	NA	L
BMT-463	NA	0.25	NA	NA	L
BMT-464	NA	0.25	NA	NA	L
BMT-465	NA	0.25	NA	NA	L
BMT-466	NA	0.25	NA	NA	S
BMT-467	NA	0.25	NA	NA	L
BMT-468	NA	0.25	NA	NA	L
BMT-469	NA	0.25	NA	NA	L
BMT-470	NA	0.25	NA	NA	L
BMT-471	NA	0.25	NA	NA	L/S
BMT-472	NA	0.25	NA	NA	L/S
BMT-473	NA	0.25	NA	NA	L/S
BMT-474	NA	0.25	NA	X	L
MMT-480	NA	0.25	NA	NA	L

171. MATCO EVENT UPDATE CHAINING. Table 1-14 contains MATCO event update chaining. Only events with update chaining are listed in table 1-14.

Table 1-14.—MATC Officer Event Update Chaining.

EVENT	EVENTS UPDATED
363	381
369	471, 472, 473
381	363
440	340, 342

180. MATCO EVENT CONVERSION MATRIX. Appendix F provides a conversion matrix of all events in the new MATCO syllabus as they correspond to the previous MATCO syllabus that this chapter replaced.

CHAPTER 2

MARINE ENLISTED AIR TRAFFIC CONTROLLER
MOS 7291, 7257/52/53/54, 7251

CHAPTER 2

ENLISTED AIR TRAFFIC CONTROLLER
MOS 7291, 7257/52/53/54, 7251

FIGURE

TABLES

CHAPTER 2

ENLISTED AIR TRAFFIC CONTROLLER
MOS 7291, 7257/52/53/54, 7251

200. UNIT CORE COMPETENCY

1. Background

a. Marine aviation plays a crucial role in the MAGTF's ability to conduct Maneuver Warfare. The ultimate goal of Marine Aviation is to attain the highest possible combat readiness to support Expeditionary Maneuver Warfare while at the same time preserving and conserving our Marines and equipment. Embedded within our combat readiness is the ability to rapidly, effectively and efficiently deploy on short notice and to quickly and effectively plan for crises and/or contingency operations thereby ensuring the Marine Air Command and Control System (MACCS) remains ready for combat when and where the need arises.

b. This T&R Directive represents the collaborative effort of Air Traffic Control (ATC) subject matter experts who designed training standards to maximize the full combat capabilities of Marine ATC (MATC) units. These standards, intrinsic in the core competency section, describe and define unit capabilities and requirements necessary to maintain like-squadron proficiency in core skills and combat leadership. Training events are based on specific requirements and performance standards to ensure crews maintain a common base of training and depth of combat capabilities. Together, the T&R comprises a building block approach to ensure trained crews remain ready, relevant, and fully capable of supporting the MAGTF commander.

c. The capabilities defined and described in the core competency model are provided to ensure each like-squadron maintains a common base of training and depth of capabilities. When resources permit, and when in the judgment of the commander additional training would significantly increase the unit's warfighting capability, training to a level above these base capabilities is permitted. It is incumbent upon, and expected of, the commander to balance any increase in the depth of core capabilities against the long-term health and readiness of the unit while staying within resource constraints.

2. Marine Air Traffic Control (MATC) Mission. To provide all weather radar/non-radar approach, arrival, departure, enroute and tower MATC services to friendly aircraft. MATC conducts task-organized operations in support of Forward Operating Bases, Marine Air Ground Task Forces (MAGTF), joint and coalition operations, and integrates into the MACCS, Integrated Air Defense System (IADS) and Single Integrated Air Picture (SIAP).

3. Mission Essential Tasks (METs)

a. (UJTL TA 1) Deploy/Conduct Maneuver:
- Conduct operations under the Expeditionary Maneuver Warfare Capstone Concept.
- Provide tower, radar/non-radar approach, arrival, departure and en-route ATC services within assigned airspace.
- Provide precision and non-precision navigational aids (NAVAIDS).

- Provide combat and civil airspace management, control and surveillance.
- Develop, implement and validate radar and non-radar IFR Terminal Instrument Procedures (TERPS) for use at pre-established and expeditionary airfields and integrate required ATC services into the existing civil/military, national/international ATC architectures.

b. (UJTL TA 2.4) Disseminate Tactical Warning Information and Attack Assessment: Integrate, display and disseminate appropriate information to the designated Combined/Joint Forces Air Component Commander (C/JFACC), Airspace Control Authority (ACA), Area Air Defense Commander (AADC) and other Theater Air/Ground System (TAGS) agencies.

c. (UJTL TA 3.2.7) Conduct Air and Missile Defense Operations:
-Provide combat and civil airspace management, control and surveillance.
-Integrate, display, and disseminate appropriate information to the designated C/JFACC, ACA, AADC and other TAGS agencies.
-Coordinate activation of the Base Defense Zone (BDZ) as part of the IADS.

d. (UJTL TA 3.2.8) Conduct Air-to-Air Operations: Integrate, display, and disseminate appropriate information to the designated C/JFACC, ACA, AADC and other TAGS agencies.

e. (UJTL TA 5.2.1) Establish, Operate and Maintain Baseline Information Exchange:
-Provide MATC liaison personnel to coordinate ATC related issues between TAGS agencies (as required) and national/international civil/combat ATC systems.
-Augment SIAP via data link to TAGS agencies.

f. (UJTL TA 6.3) Conduct Rear Area Security: Integrate, display, and disseminate appropriate information to the designated C/JFACC, ACA, AADC and other TAGS agencies, and coordinate the activation of the BDZ as part of the IADS.

g. (UJTL TA 6.5) Provide for Combat Identification:
-Integrate, display and disseminate appropriate information to the designated C/JFACC, ACA, AADC and other TAGS agencies, and coordinate activation of the BDZ as part of the IADS.
-Provide visual or electronic identification of aircraft within MATC assigned airspace.

h. (UJTL TA 7.1) Conduct Mission Operations in CBRN Environment: Conduct MATC combat operations in a Nuclear, Biological and Chemical (NBC) environment.

4. Table of Organization (T/O). Total Force Structure Division (TFSD) and Marine Corps Combat Development Command (MCCDC) manage T/Os. Table 2-1 depicts MATC ATC T/Os authorized as of the date of this Directive.

Table 2-1. MACS ATC T/O (8633) and (8633A).

T/O for One MATC Detachment *
(Air Traffic Controllers only)

HQ
(1) Officer
(1) Enlisted (NCOIC)

ATC Operations
(2) Officers
(13) Tower Enlisted
(19) Radar Enlisted

MMT #1
(1) Officer
(3) ATC Enlisted

MMT #2
(1) SNCO
(3) ATC Enlisted

44 Total

* MACS-1 (REIN)/MACS-2 (REIN) each have (3) MATC Dets.
* MACS-4 has (2) MATC Dets and MACS-24 has (1).
* Maintenance/administration personnel assigned to MATC Dets are not listed.

5. Core Capability. The MATC Detachment (MATCD) is part of the Marine Air Control Squadron (MACS) and is the principal ATC organization within the MACCS. The MATCD normally deploys as part of the MACCS within the MAGTF but may also deploy independently or as part of a combined or joint force should the mission dictate. Core capabilities of the MATCD and MATC Mobile Team (MMT) follow:

a. Core Capable Marine MATC Detachment (MATCD). The core capable MATCD establishes continuous all weather ATC services to an independent and geographically separate main air base or air facility, or provides these services at a pre-established airfield. Additionally, the core capable detachment is able to provide mobile MATC services at two remote air sites or points, see paragraph 5.b.

MATCD Crew[1]
1 Watch Commander (WC).
1 Radar Supervisor (RS).
1 Radar Approach Control (APC).
1 Arrival/Departure Control (ADC).
1 Flight Data/Clearance Delivery Controller (RFD).
1 Data Link Coordinator (DLC).
2 Radar Final Controllers (RFC).
1 Tower Supervisor (TS).
1 Local Controller (TLC).
1 Ground Controller (TGC).
1 Flight Data Controller (TFD).

Note 1: Denotes minimum crew. Crew composition is task-organized based on mission. Number of crews required is driven by airfield operational hours and national/international ATC regulations.

b. Core Capable MATC Mobile Team (MMT). A core capable MMT is task-organized to provide initial rapid response ATC to support any MAGTF and/or combined/joint mission. MMT shall support operations to air sites and may support operations at air points or air facilities. The baseline MMT for 72-hour continuous operations without re-supply or additional augmentation to meet any MAGTF and/or combined/joint mission is a standard 6-Marine team.

MMT[1]
1 MATC Officer/SNCO.
3 Controllers.
1 NAVAID Technician.
1 MATC Communication Technician.

Note 1: Denotes minimum team size. Team composition is task-organized based on mission. Number of team members required is driven by mission requirements.

c. Administrative Note. The size of the MATCD or MMT is subject to detailed planning of T/O and T/E to meet mission requirement and duration. Composition for the MATCD or MMT noted above is the baseline from which adjustments may be made through the Marine Corps Planning Process (MCPP).

6. METL/Core Skills. Core skills shall be a determining factor in developing T&R training requirements; core skills abbreviation listed in table 2-2. Core skills directly support the METL for each unit, see tables 2-3 and 2-4 below. Special skills and training requirements must receive appropriate prioritization and emphasis based on the training need, and the likelihood of those types of missions being assigned during operations.

Table 2-2.--Core Skills Abbreviations.

CORE SKILL	ABBREVIATION
Arrival/Departure Control	ADC
Approach Control	APC
Battle Management	BMT
Basic Radar Control	BRC
Basic Tower Control	BTC
Crew Management	CMT
Data Link Coordination	DLC
Marine ATC Mobile Team	MMT
Terminal Instrument Procedures	TERP
Tower Local Control	TLC

Table 2-3.--Core Skills and METL Matrix.

	CORE SKILLS									
METL	ADC	APC	BMT	BRC	BTC	CMT	DLC	MMT	TLC	TERP
Deploy/Conduct Maneuver	X	X	X	X	X	X	X	X	X	X
Disseminate Tactical Warning Information and Attack Assessment	X	X	X			X	X	X	X	
Conduct Air and Missile Defense Operations	X	X	X			X	X	X	X	
Conduct Air to Air Operations	X	X	X			X			X	
Establish, Operate, and Maintain Baseline Information Exchange	X	X	X			X	X	X	X	
Conduct Rear Area Security			X					X		
Provide for Combat Identification	X	X	X			X	X	X	X	
Conduct Mission Operations in CBRN Environment	X	X	X	X	X	X	X	X	X	X

Table 2-4.--Core Plus Skills and METL Matrix.

	CORE PLUS			
METL	BMT	CMT	MMT	TERP
Deploy/Conduct Maneuver	X	X	X	X
Disseminate Tactical Warning Information and Attack Assessment	X	X	X	
Conduct Air and Missile Defense Operations	X	X	X	
Conduct Air to Air Operations	X	X		
Establish, Operate, and Maintain Baseline Information Exchange	X	X	X	
Conduct Rear Area Security	X	X	X	
Provide for Combat Identification			X	
Conduct Mission Operations in CBRN Environment	X	X	X	X

7. Core Model Minimum Requirements (CMMR). MATCD core competency reflects the minimum level of competency a MACS must achieve to perform its core capability in the ATC mission. MATCD core competency is measured in terms of minimum core skill proficiency and minimum numbers of leaders per paragraphs 7a and 7b below.

a. Minimum Unit Core Skill Proficiency (CSP). As a minimum, in order to be core competent in the ATC mission, a MATCD must possess a minimum number of crews and MATC personnel competent in each core skill (unit CSP), as noted in table 2-5. In order to be considered competent in a core skill (individual CSP), an individual must attain and maintain proficiency in core skill events, as delineated in paragraphs 7a(1) and 7a(2) below.

Table 2-5.--Minimum Unit Core Skill Proficiency.

MATC DETACHMENT[1]						
CORE SKILL	**7220**	**7291**	**7257**	**7254**	**7253**	**7252**
BTC (TGC/TFD)	-	-	9 (4/5)	-	-	-
BRC (RFD/RFC)	-	-	8 (4/4)	-	-	-
DLC	-	-	3[2]	-	-	-
TLC	-	-	-	-	-	6
ADC	-	-	-	-	3	-
APC	-	-	-	3	-	-
MMT	1	-	2[3]	-	-	3[3]
CMT	-	-	-	3	-	3
BMT	-	-	-	-	-	-
CORE PLUS[4]						
BMT	3	1	-	-	-	-
CMT	-	-	-	1	-	1
TERP	-	-	1	-	-	-

Note 1: MACS-1 / MACS-2 each have (3) MATCDs.
MACS-4 has (2) MATCDs and MACS-24 has (1).
Maintenance/administration personnel assigned to MATCDs are not listed.
Note 2: DLC is additional duty fulfilled by an organic BRC.
Note 3: MMT personnel are organic to 7257 and 7252 Core Skills.
Note 4: Proficiency in both core skill and core plus are required to obtain unit CSP.

(1) Events Required to Attain Individual Core Skill Competency. To initially attain competency in a core skill, an individual must successfully complete all of the T&R events listed in table 2-6 below for the core skills and table 2-7 for core plus.

Table 2-6.--Attain Individual Core Skills.

MOS	CORE SKILLS									
	TLC	BTC (TGC/ TFD)	APC	ADC	DLC	BRC (RFD/ RFC)	BMT	MMT	CMT	TERP
7291	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7257	310 311 312EYR	200YR 201R 202R 203 204 205 206 207EYR 208EYR 209EYR	350 351R 352 353EYR 354 355EYR	340 341 342EYR	230 231 232 233EYR	220YR 221R 222R 223 224 225EYR 226EYR	280R 281R 380 381 382 383 384 385 386 387 388 389 390 391 392 393	260 261 262 263 264 265 266E 360 361E	370 371 372EYR 373EYR	395 396E
R = Refresh Y = Refly E = Evaluated Event										

Table 2-7.--Attain Individual Core Plus Skills.

MOS	CORE PLUS		
	BMT	CMT	TERP
7291	480 481 482 483 484 485 486 487 488	NA	495
7257	NA	470E	NA

(2) Events Required to Maintain Individual Core Skill Competency. To maintain competency in a core skill, an individual must maintain proficiency in all of the core skill events listed in table 2-8 below.

Table 2-8.--Maintain Individual Core Skills.

MOS	CORE SKILLS							
	TLC	BTC (TGC/ TFD)	APC	ADC	DLC	BRC (RFD/ RFC)	BMT	CMT
7291	NA	NA	NA	NA	NA	NA	NA	NA
7257	312RY	200RY 201R 202R 207ERY 208ERY 209ERY	351R 353RY 355RY	342RY	233ERY	220RY 221R 225ERY 226ERY	280R 281R	372RY 373RY
R = Refresh			Y = Refly			E = Evaluated Event		

b. Minimum Combat Leadership Requirements. As a minimum, in order to be considered core competent, a unit must posses the numbers of crews with the combat leadership designations listed in table 2-9.

Table 2-9.--Combat Leadership Requirements.

COMBAT LEADERSHIP	PER MATC DET
DETACHMENT COMMANDER	1
ATC WATCH COMMANDER	2
MMT LEADER	2
NCOIC	1
TOWER CHIEF	1
RADAR CHIEF	1
TOWER SUPERVISOR	3
RADAR SUPERVISOR	3
	TOTAL: 14

8. Qualification, Designation and Instructor Requirements. Tables 2-10 through 2-12 delineate T&R events required to be completed to attain initial qualifications, re-qualifications, and designations. All stage training lectures (appendix A) and prerequisites shall be complete prior to completing final events; appendix B is a list of references required to complete events throughout this syllabus. Qualification and designation letters signed by the commanding officer or his representative shall be placed in the individual MACCS performance records. Loss of proficiency in all qualification events of a core skill causes the associated qualification to be lost. Regaining the qualification requires completing all R-coded syllabus events associated with the qualification, see paragraph 305, Aviation T&R Program Directive for syllabus training exceptions.

a. Qualification. A qualification is a status assigned based on demonstrated proficiency in a specific skill. Specific criteria to achieve

qualifications is delineated in table 2-10, MAWTS-1 course catalog and governing directives. Upon completion of qualification criteria, commanding officers shall issue a qualification letter for inclusion into individual MACCS performance records. Qualifications are not lost when refreshing events. Loss of proficiency (delinquent refresh events) for all associated qualification events constitutes loss of the qualification. Re-qualification requires demonstrated proficiency by successfully completing all R-coded events associated with the qualification (unless waived per paragraph 305 of the Aviation Program Directive). The R-coded events are listed in tables 2-6 and 2-8.

Table 2-10.— Enlisted ATC Qualifications.

QUALIFICATION	REQUIREMENT	TRACKING CODE
Tower Flight Data	BTC-207	QUAL-607
Clearance Delivery	BTC-208	QUAL-608
Ground Control	BTC-209	QUAL-609
Local Control	TLC-312, and 6 months as a controller at one location	QUAL-611
Radar Flight Data	BRC-225	QUAL-625
Final Controller	BRC-226	QUAL-626
Data Link Coordinator	DLC-233	QUAL-633
Arrival/Departure Control	ADC-342	QUAL-642
Approach Control	APC-353	QUAL-653
Sector Controller	APC-355	QUAL-655
MMT Leader	MMT-361	QUAL-661
MMT Member	MMT-266E	QUAL-666
TERPS Specialist	TERP-495	QUAL-695

b. Designation. A designation is a status assigned to an individual based on leadership ability (see table 2-11). It is command or facility specific and remains in effect until removed for cause, transferred, or rescinded at the commander's discretion. Commanders shall issue the individual a designation letter for inclusion in the MACCS performance record.

Table 2-11.-- Enlisted ATC Designations.

DESIGNATION	REQUIREMENT	TRACKING CODE
OJTI	INST-500	DESG-600
WTI-Air Control	INST-501	DESG-601
MMT Leader Instructor	INST-502	DESG-602
TERPS Specialist	TERP-495	DESG-603
TS	CMT-372	DESG-670
TC	CMT-372	DESG-671
CTO Examiner	CMT-372	DESG-672
RS	CMT-373	DESG-673
RC	CMT-373	DESG-674
ATCSE	CMT-373	DESG-675
Training Chief	CMT-474	DESG-676
FWO	TLC-310; all ATCS ratings at assigned facility and min of 5 yrs ATC experience	DESG-677
MATCD NCOIC	BMT-481	DESG-681
MACS Ops Chief	BMT-482	DESG-682
WC	BMT-483	DESG-683

c. Instructor Requirements. As a minimum, a unit should maintain instructor designations to support ATC operations (see table 2-12). Instructor designations are outlined in the MAWTS-1 Course Catalog and MCO 3500.12C (WTTP).

Table 2-12.--Enlisted ATC Instructor Qualifications.

QUALIFICATION	REQUIREMENT	TRACKING CODE
OJTI	INST-500	QUAL-600
WTI	INST-501; SNCOs receive MOS 7277 upon completion of WTI C3 COI.	QUAL-601
MMT Leader Instructor	INST-502	QUAL-602

9. MATC Training Progression Philosophy

a. MATC training is unique amongst other MACCS MOS training because of the requirement to function in both tactical and civilian ATC environments, whether assigned to a MATCD or MCAS. The controller provides Marine aviation the requisite interface required to conduct wartime operations or peacetime training exercises by integrating seamlessly into the U.S. National Airspace System (NAS) or a host nation's airspace. The extensive training and qualification requirements which controllers are required to meet, under both Federal Aviation Administration (FAA) and international regulations, ensure the ability of Marine aviation to operate safely and legally anywhere in the world.

b. This training progression philosophy applies to the Marine Corps Reserve air traffic controller.

c. The enlisted ATC training progression model (fig. 2-1) provides a clear logical progression of qualifications within a unit. The emphasis of this model is on personnel qualifications in Core Skill Basic and Core Skill Advanced stages; with this model, training officers have the guidance needed to produce viable training plans. Units should use the model as a point of departure to generate weekly, monthly, quarterly and annual training plans.

d. MARADMIN 229/04, amplifies the ATC progression model by providing ATC skill sets trained to, MOS and CTO/ATCS ratings available based on CNO N785F assigned ATC facility classifications (appendix D). MARADMIN 230/04, provides maximum MOS training timelines for enlisted Marines (appendix E).

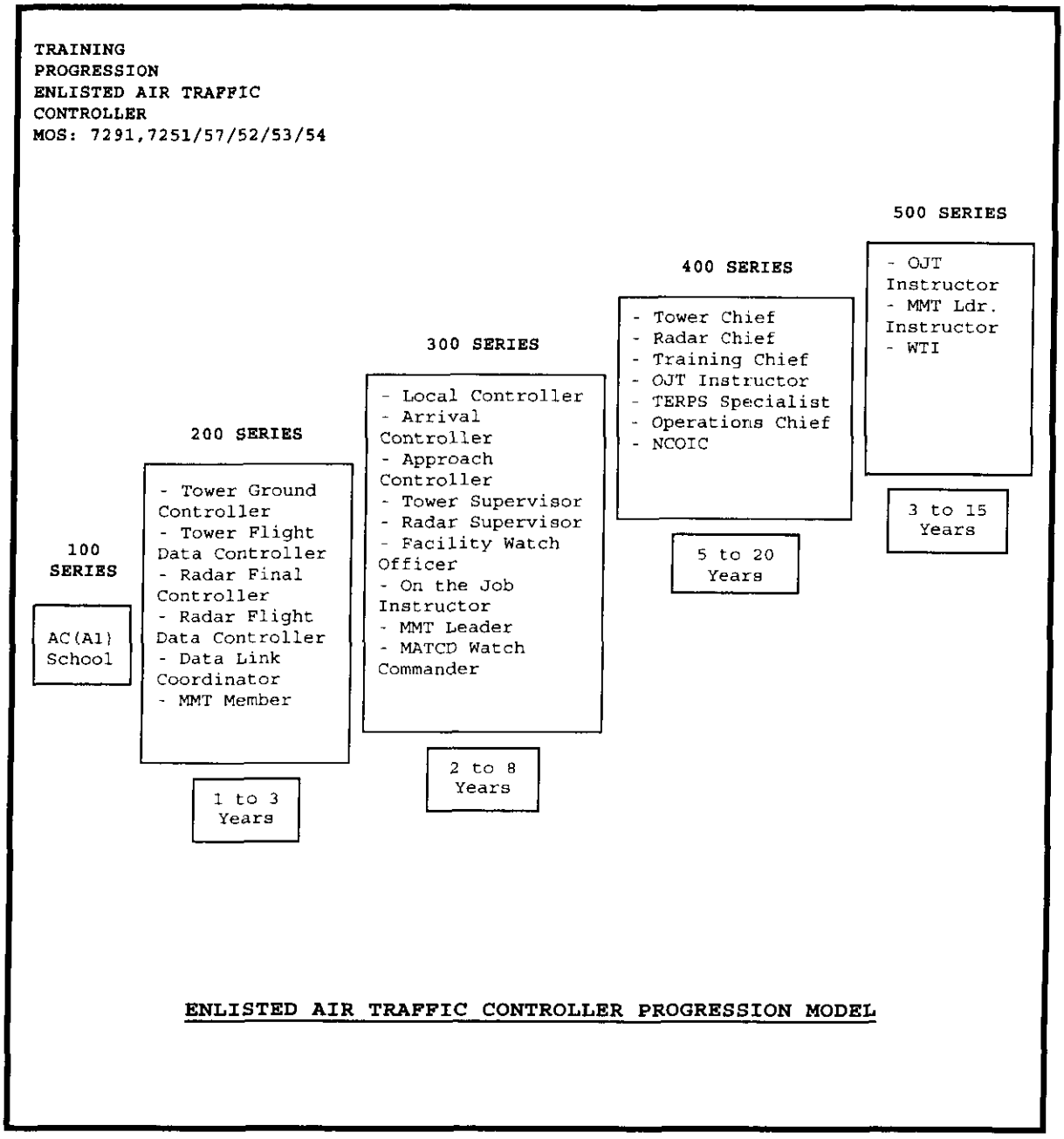

Figure 2-1.--Enlisted Air Traffic Controller Progression Model.

201. PROGRAMS OF INSTRUCTION (POI) FOR ENLISTED AIR TRAFFIC CONTROLLERS

1. Basic or Transition Enlisted Air Traffic Controller

Months	Phase	Activity
1-4	Core Introduction Training	NATTC
5-36	Core Skill Basic	MACS/MCAS
37-96	Core Skill Advanced	MACS/MCAS
60-144	Core Plus	MACS/MCAS

2. Refresher Enlisted Air Traffic Controller

Months	Phase	Activity
1-24	Core Skill Basic	MACS/MCAS
25-60	Core Skill Advanced	MACS/MCAS
61-120	Core Plus	MACS/MCAS

202. MATC PERSONNEL TRAINING

1. Core Skill Introduction Training

STAGE	EVENTS	PERCENT
ACA1 SCHOOL NATTC PENSACOLA	29	60.0%

2. Core Skill Basic Training

STAGE	EVENTS	PERCENT
BTC	10	6.1
BRC	7	3.9
DLC	4	1.6
MMT	7	3.4
TOTAL	**28**	**15.00**
ACCUMULATION TOTAL	**57**	**75.00**

3. Core Skill Advanced Training

STAGE	EVENTS	PERCENT
TLC	3	2.2
ADC	3	2.0
APC	6	3.8
MMT	2	1.5
CMT	4	2.0
BMT	14	7.0
TERP	2	1.5
TOTAL	**34**	**20.00**
ACCUMULATION TOTAL	**91**	**95.00**

4. Core Plus Training

STAGE	EVENTS	PERCENT
CMT	1	.5
BMT	8	4.0
TERP	1	.5
- TOTAL	10	5.00
ACCUMULATION TOTAL	101	100.00

5. Instructor Training

STAGE	EVENTS
OJTI INSTRUCTOR	1
WTI	1
MMT LEADER INSTRUCTOR	1
TERPS SPECIALIST	1

203. MATC PERSONNEL REFRESHER TRAINING

1. Core Skill Introduction Training. The initial core skill introduction training is a one-time occurrence that remains current and accounts for 60% of core skills training.

STAGE	EVENTS	PERCENT
BTC	8	8.0
BRC	6	6.0
DLC	1	1.0
MMT	0	0
TOTAL	15	15.00
ACCUMULATION FOR REFRESHER	15	75.00

2. Core Skill Advanced Training

STAGE	EVENTS	PERCENT
TLC	2	2.0
ADC	2	2.0
APC	6	6.0
MMT	0	0
CMT	4	4.0
BMT	5	5.0
TERP	1	1.0
TOTAL	20	20.00
ACCUMULATION FOR REFRESHER	35	95.00

3. Core Plus Training

STAGE	EVENTS	PERCENT
CMT	0	0
BMT	4	4.0
TERP	1	1.0
TOTAL	**5**	**5.00**
ACCUMULATION FOR REFRESHER	**40**	**100.00**

210. GROUND/ACADEMIC TRAINING

1. Academic training shall be conducted for each phase/stage of the syllabus. Commanders shall incorporate the lectures in Appendix A into the unit's training plans. Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

2. Academic training listed in 700 and 800 levels is applicable to personnel assigned to any ATC MOS.

3. External academic courses of instruction available to complete the syllabus are listed below:

COURSE	ACTIVITY
Air Traffic Controller Course	NATTC, FL
Advanced Marine Air Traffic Control Detachment Course	NATTC, FL
Advanced Radar Air Traffic Control Course	NATTC, FL
ATC Managers Course	NATTC, FL
Terminal Instrument Procedures Course	FAA MTT
Military Airspace Management Course	Keesler AFB, MS
Weapons Tactics Instructor C3 Course	MAWTS-1
Marine ATC Mobile Team Leader Course	MAWTS-1
Joint Air Tasking Order Procedures Course	Hurlburt Field,FL
Joint Air and Space Operation Center Initial, Qualification Training (AOCIQT); Airspace Course	Hurlburt Field,FL
Multi-TADIL Advanced Joint Interoperability Course	Fort McPherson,GA

230. EVENT PERFORMANCE REQUIREMENTS

1. The purpose of this section is to provide the commander with standardized training program for all ATC personnel. The overall goal is to develop unit warfighting capabilities and not to measure the proficiency of individuals. Syllabi are based on specific performance standards designed to ensure proficiency in core competencies. An effective T&R program is the first step in providing the MAGTF commander with an Aviation Combat Element (ACE) capable of accomplishing any and all of its stated missions. The T&R program provides the fundamental tools for commanders to build and maintain unit combat readiness. Using these tools, training managers can construct and execute an effective training plan that supports the unit's mission essential tasks.

2. Unit training management is the application of the Marine Corps Training Principles and the Systems Approach to Training to satisfy the training

requirements of commanders at all levels in order to accomplish their wartime mission. Guidance concerning unit training management and the process for establishing effective unit training management programs are contained in MCRP 3-0A, *Unit Training Management Guide*, and formed the basis for the development of this T&R Directive. Familiarity with MCRP 3-0A will enhance understanding of the Systems Approach to Training used in T&R development and Marine Corps UTM principles.

3. MACCS Integrated System Training. All elements of the MACCS shall maintain the capability to effectively function as part of an integrated airspace command and control system. The MACCS should conduct MACCS Integrated System Training Exercises (MISTEX) on a regular basis to qualify units and personnel per their respective T&R syllabus because large exercises may not always offer sufficient training opportunity for all crewmembers. MISTEXs should focus on the establishment of necessary communications and data links between MACCS agencies. Therefore, sufficient simulation and Marine Simulation Events List (MSEL) items should be incorporated to exercise and analyze system integration, crew coordination, and critical information flow wherever possible. Tactical Digital Link (TDL) capable agencies should conduct frequent "Link" training exercises to maintain proficiency.

4. The majority of the enlisted ATC syllabus is ground training, which requires in-depth integration within the MACCS. Likewise, development of MAGTF training involving extensive integration with applicable elements of the MAGTF is mandatory in the development of core skills. Training not conducted in a live training environment shall be replaced with simulation where applicable and as indicated in the condition code for each event.

5. All air traffic controllers are required to achieve initial MOS qualification at MCAS/MCAF ATC facilities. Additionally, Fleet Assistance Program (FAP) agreements between MACS and MCAS are in place to provide a venue for training and core skill proficiency for controllers at the air stations and the MACSs.

231. CORE SKILL INTRODUCTION TRAINING

1. General

a. This phase provides classroom entry-level instruction on ATC concepts, regulations, procedures, and operating techniques. Basic skills required by the controller are taught using state of the art simulation and intensive classroom instruction. Upon completion of the MOS producing school, the controller possesses the same certification obtained by FAA controllers graduating from the National FAA Air Traffic Control School. This training enables the controller to understand and apply ATC rules and regulations, qualify and perform the functions of an ATC controller in an MATCD or an MCAS.

b. Core Skill Introduction Stages

(1) Familiarization (FAM).
(2) Systems (SYS).
(3) Simulation (SIM).

2. Familiarization (FAM), System (SYS) and Simulation (SIM)

a. Purpose. To develop basic knowledge of ATC rules, procedures and operations. Completion of AC(A1) School at Naval Air Technical Training Center (NATTC), Pensacola, FL is mandatory to satisfy the requirements of this phase. Core Skill Introduction training does not require refly. Upon completion of this phase, the controller is trained in basic MATC operations.

b. Prerequisite. Appropriate medical certificate, GT 105, 18 years old upon completion of the ACA1 course, and US citizenship.

c. Academic Training. Formal school.

d. Classroom and Simulator Event Training. 29 events.

3. Familiarization (FAM)

FAM-100 E L

Goal. Introduce weather as applied to ATC.

Requirement. Describe aviation weather to include:

(1) Basic weather characteristics.
(2) Weather hazards.
(3) Aviation weather observations.
(4) Aviation weather forecasts.
(5) Weather advisories.
(6) Weather observing programs.
(7) Aviation sequence reports.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-101 E L

Goal. Introduce airspace, navigation, and time as applied in ATC.

Requirement. Describe the National Airspace System (NAS), time conversions, and basic navigation.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-102 E N/A L

Goal. Introduce Special Use Airspace (SUA) used by the military.

Requirement. Describe controller responsibilities within SUAs.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-103 E L

Goal. Introduce Navigational Aids (NAVAIDS).

Requirement. Describe basic radio theory and NAVAIDS.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-104 E L

Goal. Introduce charts and publications used in ATC.

Requirement. Given aeronautical charts and publications, locate information and complete statements in accordance with the Flight Information Publications (FLIP) program.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-105 E L

Goal. Introduce communications as applied in ATC.

Requirement. Describe communication procedures used in ATC.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-106 E L

Goal. Introduce airport design and ATC equipment.

Requirement. Describe airport design and ATC equipment.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-107 E L

Goal. Introduce general ATC procedures.

Requirement. Describe general ATC procedures to include:

(1) General Control.
(2) Weather information.
(3) Federal Aviation Regulation (CFR) Part 91.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-108 E L

Goal. Introduce ATC terminal procedures.

Requirement. Select statements that describe general ATC procedures used in a terminal environment.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-109 E L

Goal. Introduce emergencies and special handling.

Requirement. Describe handling of emergency aircraft and special situations in a control tower environment.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-110 E L

Goal. Introduce non-radar procedures.

Requirement. Describe general non-radar procedures as applied in ATC.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-111 E L

Goal. Pass the Airmen's Written Test (AWT).

Requirement. Conduct a thorough review of all information taught in FAM-100 through FAM-110.

Performance Standards. Pass the AWT with a minimum score of 70%.

FAM-112 E L

Goal. Control tower indoctrination.

Requirement. Describe the different operating positions in a control tower and their individual responsibilities.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-113 E L

Goal. Introduce basic radar knowledge.

Requirement. Describe the different operating positions in a radar facility, define basic radar theory, and identify associated equipment.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-114 E L

Goal. Introduce basic radar services provided by ATC.

Requirement. Describe basic radar services and procedures used by ATC.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-115 E L

Goal. Introduce Airport Surveillance Radar (ASR).

Requirement. Describe terms and procedures used by an ASR Final Controller. Refer to FAA 7110.65 and Navy Millington Facility Directive.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-116 E L

Goal. Introduce Precision Approach Radar (PAR).

Requirement. Describe terms and procedures used by a PAR Final Controller.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-117 E L

Goal. Introduce arrival control.

Requirement. Describe terms and procedures used by an Arrival Controller.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-118 E L

Goal. Introduce the Marine Air Traffic Control and Landing System (MATCALS).

Requirement. Describe the components and basic operation of the MATCALS, to include:

(1) AN/TPS-73 Air Traffic Control Subsystem (ATCS).
(2) AN/TPN-22 Automatic Landing System (ALS).
(3) AN/TSQ-131 Control and Communication Subsystem (CCS).

Performance Standards. Execute the following functions with 70% accuracy:

(1) Load FOC software into MMD via Magnetic Tape Unit (MTU).
(2) Load FOC software into MMD via Serial Data Bus (SDB).
(3) Set up an MMD for surveillance usage (ADC).
(4) Set up an MMD for a Final Controller (FC) Trainee.
(5) Set up a Final Control (FC) simulation scenario.
(6) Set up a Arrival Control (ADC) simulation scenario.

FAM-119 E L

Goal. Introduce the six functions of Marine aviation.

Requirement. Describe the six functions of Marine aviation:

(1) AAW.
(2) OAS.
(3) Assault support.
(4) Electronic Warfare.
(5) Reconnaissance.
(6) Control of aircraft and missiles.

Performance Standards. Pass an exam with a minimum score of 70%.

FAM-120 E L

Goal. Introduce the role, mission, and organization of the MACCS.

Requirement. State the role, mission, and organization of the MACCS to include:

(1) Tactical Air Command Center (TACC).
(2) Tactical Air Operations Center (TAOC).
(3) Marine Air Traffic Control Detachment (MATCD).
(4) Direct Air Support Center (DASC).
(5) Low Altitude Air Defense (LAAD) Battalion.
(6) Marine Wing Communication Squadron (MWCS)
(7) Marine Unmanned Aerial Vehicle (VMU) Squadron.

Performance Standards. Pass an exam with a minimum score of 70%.

4. Systems (SYS)

SYS-130 E L/S

Goal. Introduce the CCS equipment.

Requirement. Identify and describe the equipment found in the CCS, to include:

(1) Processor Display Set (PDS).
(2) Cartridge Magnetic Tape Unit (CMTU).
(3) Line Printer.
(4) Wind indicator.
(5) TDL-B modem.
(6) Digitizer Switching Set (DSS).
(7) Control and Distribution Set (CDS).
(8) Radios.
(9) Intercom.
(10) Telephones.
(11) TDL-C.
(12) TDL-B.

Performance Standards. Identify equipment listed above by visual sight with a minimum 70% accuracy.

Prerequisite. FAM-118.

5. Simulation (SIM)

SIM-140 L/S

Goal. Introduce basic tower operations.

Requirement. Observe and begin to apply basic tower operations in a Static Lab environment.

Performance Standards. Utilizing proper phraseology and tower procedures, the trainee will demonstrate the proficiency to progress to the Tower Operator Training System (TOTS).

Prerequisite. FAM-112.

SIM-141 S

Goal. Perform as a Control Tower Operator.

Requirement. Using the 15G32 Tower Operator Training System (TOTS), perform as:

(1) Flight Data Operator per FAA 7110.65 and applicable instructions while observing all safety precautions.
(2) Ground Control Operator per FAA 7110.65 and applicable instructions while observing all safety precautions.
(3) Local Control Operator per FAA 7110.65 and applicable instructions while observing all safety precautions.

Performance Standards. Pass a performance test with a minimum score of 70% on each operating position.

Prerequisite. SIM-130.

SIM-142 E S

Goal. Perform as an ASR Final Controller.

Requirement. Utilizing the 15G31 voice-recognition training device, perform the duties of an ASR Final Controller per FAA 7110.65 and applicable instructions while observing all safety precautions.

Performance Standards. Pass a performance test with a minimum score of 70%.

Prerequisite. FAM-115.

SIM-143 E S

Goal. Perform as a PAR Final Controller.

Requirement. Utilizing the 15G31 voice-recognition training device, perform duties of a PAR Final Controller per FAA 7110.65 and applicable instructions while observing all safety precautions.

Performance Standards. Pass a performance test with a minimum score of 70%.

Prerequisite. FAM-116.

SIM-144 S

Goal. Identify and vector an aircraft.

Requirement. Utilizing the 15G31 voice-recognition training device, identify and vector an aircraft through a series of corridors.

Performance Standards. An aircraft shall be vectored from its initial position to the approach gate without touching the sides of the corridors or the airspace boundary.

Prerequisite. FAM-117.

SIM-145 E S

Goal. Perform as an Arrival Controller.

Requirement. Utilizing the 15G31 voice-recognition training device, perform the duties of an Arrival Controller per FAA 7110.65 and applicable instructions while observing all safety precautions.

Performance Standards. Pass a performance test with a minimum score of 70%.

Prerequisite. FAM-117.

SIM-146 E S

Goal. Perform as a MATCALS basic equipment operator.

Requirement. Perform the functions of a MATCALS basic equipment operator, in all modes of operation, while observing safety precautions to include:

(1) Arrival Departure Control (ADC) Mode.
(2) Final Control (FC) Mode.
(3) Training Modes.

Performance Standards. Pass a performance test with a minimum score of 70%.

Prerequisite. SYS-120.

232. CORE SKILL BASIC TRAINING (7257)

1. General

a. This phase provides for controllers to apply skills and knowledge obtained at the Core Skill Introduction (100-level) phase by manning crew positions at a MCAS or Forward Operating Base, under the direct supervision of qualified controllers in an OJT environment. Initial individual core skills are learned and mastered using a mix of live aircraft and simulation. Training progresses incrementally and includes introduction to the MATCD equipment, MACCS, MMT, and Data Link Coordinator (DLC). This phase culminates with the controller achieving Naval Air Training and Operating Procedures Standardization (NATOPS) certifications on basic ATC operating positions such as Tower Flight Data Control (FD), Clearance Delivery (CD), Tower Ground Control (TGC), Radar Flight Data Control (RFD), and/or Radar

Final Control (RFC). At this point the controller is prepared to be a crewmember in a MATCD or MMT.

b. Core Skill Basic Stages

(1) Basic Tower Control (BTC).
(2) Basic Radar Control (BRC).
(3) Data Link Coordination (DLC).
(4) MATC Mobile Team (MMT).

2. Basic Tower Control (BTC) Training

a. Purpose. To develop basic knowledge of ATC rules, procedures and operations in a tower environment.

b. Administrative Notes. None.

c. Prerequisite. Successfully complete the 100-level.

d. Refresher Training. Refresher training is required once a Core Skill Basic qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the controller will complete "R" coded events in the 200-level of this syllabus.

e. Crew Requirements. None.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 10 events.

BTC-200YR	Y,R	L/S

Goal. Operate fixed control tower equipment.

Requirement. Operate the following equipment:

(1) Transmitter/receiver control panel(s).
(2) Backup/emergency transmitter/receiver location and controls.
(3) Airfield lighting console/computer.
(4) Intercom units.
(5) Telephones.
(6) Altimeter.
(7) Aldis lamp.
(8) Wind instruments.
(9) Clocks.
(10) NAVAID monitors.
(11) Console and cab lighting.
(12) Cooling and heating controls.
(13) P. A. system.
(14) Emergency alert system.
(15) Fire extinguishers.
(16) Emergency power cutoff.
(17) Traffic tabulators.
(18) FDIO.

(19) BRANDS/BRITE.
(20) Tower Display Workstation (TDW).
(21) Personal Computer.
(22) Weather reporting monitor.
(23) VIDS

Performance Standards. Successfully operate all equipment during OJT.

Prerequisite. KTWR-801.

BTC-201R R L/S

Goal. Operate the Expeditionary Control Tower (AN/TSQ-120) and associated equipment.

Requirement. Locate and operate the following equipment:

(1) Power distribution panel.
(2) Internal and external lights.
(3) Aldis lamp.
(4) Overhead speakers and adjustment knobs.
(5) Flare gun assembly and firing switch.
(6) Digital clock.
(7) Thermostat.
(8) Convert barometric pressure reading to altimeter setting.
(9) Wind direction and speed indicator operation.
(10) TELCO (intercom/land line).
(11) VHF and UHF tunable radios.
(12) Radio selector buttons.
(13) Speaker selector switch.
(14) ATIS.
(15) Microphone and headset/handset jacks.
(16) Crash alarm.
(17) Fire detector.
(18) Operator Control Unit (OCU).

Performance Standards. Successfully operate all equipment during OJT.

Prerequisite. KFAM-701.

BTC-202R R L/S

Goal. Operate the Remote Landing Site Tower (AN/TSQ-216) and associated equipment.

Requirement. Locate and operate the following equipment:

(1) Power distribution panel.
(2) Internal and external lights.
(3) Aldis lamp (IR and visible light).
(4) Flare gun.
(5) Digital clock.
(6) ECU.
(7) Laptop computer.
(8) Wind direction and speed indicator operation.

(9) TELCO (intercom/land line).
(10) VHF, UHF and HF tunable radios.
(11) Radio selector buttons.
(12) Speaker selector switch.
(13) ATIS.
(14) Microphone and headset/handset jacks.
(15) Crash alarm.
(16) Fire detector.
(17) Operator's Control Unit (OCU).
(18) Antenna construction.
(19) Generator.

Performance Standards. Successfully operate all equipment during OJT.

Prerequisite. KFAM-701.

BTC-203 L

Goal. Perform duties of a Tower Flight Data Controller (TFD).

Requirement. In a control tower, under direct supervision of an OJTI, perform the duties and responsibilities of a TFD Controller.

Performance Standards. Demonstrate proficiency required to be recommended for qualification as a TFD controller.

Prerequisite. BTC-200, KFAM-800 through KFAM-804, and all KTWR and KTFD knowledge events.

BTC-204 L

Goal. Perform duties of a Clearance Delivery Controller (CD).

Requirement. While under direct supervision of an OJTI, perform the duties and responsibilities of CD Controller.

Performance Standards. Demonstrate proficiency required to be recommended for qualification as a CD controller.

Prerequisite. BTC-200 and KTFD-821.

BTC-205 L

Goal. Perform the duties of a Tower Ground Controller (TGC).

Requirement. In a control tower, under direct supervision of an OJTI, perform duties and responsibilities of a TGC Controller.

Performance Standards. Demonstrate the proficiency required to be recommended for qualification as a TGC Controller.

Prerequisite. BTC-200, KFAM-800 through KFAM-804, and all KTWR and KTGC knowledge events.

BTC-206 L/S

Goal. Conduct launches and recoveries in EMCON conditions.

Requirement. In a garrison or field environment, conduct EMCON launches and recoveries. Demonstrate usage of the following:

(1) Pro-words and brevity codes.
(2) Light gun signals.

Performance Standards. Successfully launch and recover aircraft during EMCON operations.

Prerequisite. KTGC-823.

BTC-207EYR E,Y,R L

Goal. Qualify as a Tower Flight Data Controller (TFD).

Requirement. In a garrison or field environment, under direct supervision and in compliance with established NATOPS evaluation criteria, apply knowledge and conduct ATC procedures in a safe, orderly, and expeditious manner at the TFD position per NAVAIR 00-80T-114.

Performance Standards. Pass an OJT exam demonstrating knowledge and proficiency while performing the above requirement as a TFD Controller.

Prerequisite. BTC-203.

BTC-208EYR E,Y,R L

Goal. Qualify as a Clearance Delivery (CD) Controller.

Requirement. In a garrison or field environment, under direct supervision and in compliance with established NATOPS evaluation criteria, apply knowledge and conduct ATC procedures in a safe, orderly, and expeditious manner on the CD position per NAVAIR 00-80T-114.

Performance Standards. Pass an OJT exam demonstrating knowledge and proficiency while performing the above as a CD Controller.

Prerequisite. BTC-204.

BTC-209EYR E,Y,R L

Goal. Qualify as a Tower Ground Controller (TGC).

Requirement. In a garrison or field environment, under direct supervision and in compliance with established NATOPS evaluation criteria, apply knowledge and conduct ATC procedures in a safe, orderly, and expeditious manner at the TGC position per NAVAIR 00-80T-114.

Performance Standards. Pass an OJT exam demonstrating knowledge and proficiency while performing the above as a TGC.

Prerequisite. BTC-205.

3. Basic Radar Control (BRC) Training

a. Purpose. To develop basic knowledge of ATC rules, procedures and operations in a radar environment.

b. Administrative Notes. None.

c. Prerequisite. Successfully complete all 100-level events.

d. Refresher Training. Refresher training is required once a Core Skill Basic qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the controller will complete "R" coded events in the 200 series syllabus.

e. Crew Requirements. None.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 7 events.

BRC-220YR Y,R L/S

Goal. Operate fixed radar equipment.

Requirement. Operate the following radar equipment:

(1) Surveillance Radar.
(2) Precision Radar.
(3) Transmitter/receiver control panel(s).
(4) Backup/emergency transmitter/receiver location and controls.
(5) Intercom units.
(6) Telephones.
(7) Altimeter.
(8) Wind instruments.
(9) Clocks.
(10) NAVAID monitors.
(11) Console lighting.
(12) Cooling and heating controls.
(13) Emergency alert system.
(14) Fire extinguishers.
(15) Emergency power cutoff.
(16) FDIO.
(17) Personal Computer.
(18) Weather reporting monitor.
(19) VISCOM.
(20) Simulator.
(21) VIDS

Performance Standards. Successfully operate all equipment during OJT.

Prerequisite. KRDR-800.

BRC-221R R L/S

Goal. Configure the Control and Communications Subsystem (AN/TSQ-131) and associated equipment for basic operation.

Requirement. Execute the following functions:

(1) Operate the Operator Control Unit (OCU).
(2) Set up communications for a final approach.
(3) Program Multi-Mode Display (MMD) for elevation/azimuth.
(4) Set up an MMD for surveillance usage (ADC).
(5) Set up an MMD for a Final Controller (FC) Trainee.
(6) Set up a Final Control (FC) simulation scenario.

Performance Standards. Successfully operate all equipment during OJT.

Prerequisite. KFAM-717, KFAM-718.

BRC-222R R S

Goal. Control precision/surveillance approaches using the simulation mode of the AN/TSQ-131.

Requirement. Utilize the AN/TSQ-131 equipment under the supervision of an OJTI. Control 20 simulated approaches using the following RFC modes of the MATCALS:

(1) Simulated Mode-3 final approach.
(2) Simulated Mode-2 final approach.
(3) Simulated Mode-2 final using track update menu.
(4) Simulated Mode II, ACLS, TDL-C.
(5) Simulated emergencies and unusual circumstances incorporated into all of the above simulations.

Performance Standards. Successfully control aircraft during simulated final approaches.

Prerequisite. KFAM-717, KFAM-718.

BRC-223 L

Goal. Perform duties of a Radar Flight Data Controller (RFC).

Requirement. In a radar environment, under direct supervision of an OJTI, perform the duties and responsibilities of a Radar Flight Data Controller.

Performance Standards. Demonstrate the proficiency required to be recommended for qualification as a RFD controller.

Prerequisite. BRC-220, KFAM-800 through KFAM-804, and all KRDR and KRFD knowledge events.

BRC-224 L

Goal. Perform the duties of a Radar Final Controller (RFC).

Requirement. In a radar environment, under direct supervision of an OJTI, perform the duties and responsibilities of a RFC.

Performance Standards. Demonstrate the proficiency required to be recommended for qualification as a RFC.

Prerequisite. BRC-220, KFAM-800 through KFAM-804, and all KRDR and KRFC knowledge events.

BRC-225EYR E,Y,R L

Goal. Qualify as a Radar Flight Data Controller (RFD).

Requirement. In a garrison or field environment, under direct supervision and in compliance with established NATOPS evaluation criteria, apply knowledge and conduct ATC procedures in a safe, orderly, and expeditious manner on the RFD position per NAVAIR 00-80T-114.

Performance Standards. Pass an OJT exam demonstrating knowledge and proficiency as a RFD Controller:

Prerequisite. BRC-223.

BRC-226EYR E,Y,R L

Goal. Qualify as a Radar Final Controller (RFC).

Requirement. In a garrison or field environment, under direct supervision and in compliance with established NATOPS evaluation criteria, apply knowledge and conduct ATC procedures in a safe, orderly, and expeditious manner on the RFC position per NAVAIR 00-80T-114.

Performance Standards. Pass an OJT examination demonstrating knowledge and proficiency while performing as a RFC

Prerequisite. BRC-224.

4. Data Link Coordination (DLC) Training

a. Purpose. To develop basic knowledge of Tactical Data Link (TDL) use.

b. Administrative Notes. None.

c. Prerequisite. None.

d. Refresher Training. Refresher training is required once a Core Skill Basic qualified controller has been absent from an ATC billet for 18 months

or longer. Upon return to an appropriate ATC billet, the controller will complete "R" coded events in the 200-level of this syllabus.

e. Crew Requirements. None.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 4 events.

DLC-230 S

Goal. Identify standard data link symbology.

Requirement. Identify and manipulate standard symbology over a TDL-B link. The exercise should include friendlies, hostiles, unknowns and pending.

Performance Standards. Visually identify data link symbology with a minimum of 80% accuracy.

Prerequisite. KFAM-730, KFAM-731.

DLC-231 L

Goal. Introduce Tactical Digital Information Link (TDL) theory.

Requirement. Explain TDL theory to include:

(1) Identify the characteristics of existing TDLs.
(2) Identify the meaning of Data Link Reference Point (DLRP), Unit System Coordination Center (USCC), Unit Position (UPOS) and the difference between data grid and display grid.
(3) Identify the capabilities of each service's command and control agencies to conduct one or more of the TDLs.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-730, KFAM-731.

DLC-232 L

Goal. Describe MACCS TDL interoperability.

Requirement. Describe MACCS TDL interoperability to include:

(1) Major interface considerations with the following:
    (a) TDL-A.
    (b) TDL-B.
    (c) GBDL.
    (d) TDL-C.
    (e) TDL-J.
(2) Specific considerations for data link operation.

(3) Voice nets to be activated for joint service operations.
(4) Major considerations for selecting TDL systems.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-700.

DLC-233EYR E,Y,R L/S

Goal. Qualify as a DLC.

Requirement. During an operation or a training exercise, establish, operate, and exit MATCALS TDL-B and TDL-C links.

(1) Track Management.
(2) Emergency circuit exit TDL-B.
(3) Mode II, ACLS, TDL-C.

Performance Standards. Pass an OJT exam demonstrating knowledge and proficiency while performing as a Data Link Coordinator (DLC) in compliance with established evaluation criteria.

Prerequisite. KFAM-730, KFAM-731, DLC-230, DLC-231, DLC-232.

External Syllabus Support. Operational TACC and/or TAOC equipment (TDL-B) NAWCAD MTT.

5. Marine ATC Mobile Team (MMT) Training

a. Purpose. To develop basic knowledge of MMT tactics and procedures.

b. Administrative Notes. None.

c. Prerequisite. BTC-207 and BTC-209, or BRC-225 and BRC-226.

d. Refresher Training. Refresher training is required once a Core Skill Basic qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the controller will complete "R" coded events in the 200-level of this syllabus.

e. Crew Requirements. A minimum of a 6-member MMT.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 7 events.

MMT-260 L

Goal. Operate communications equipment in secure/nonsecure mode and frequency agile mode.

Requirement. In a garrison or field environment, communicate with other agencies using the secure/nonsecure mode of organic MMT radios.

Performance Standards. Establish two-way communications using organic UHF/VHF/HF/SATCOM radios.

Prerequisite. Lecture A-19, KFAM-704, KFAM-710.

MMT-261 L

Goal. Construct a field expedient antenna.

Requirement. Using necessary materials, construct a field expedient antenna for communication.

Performance Standards. Establish two-way communications using organic UHF/VHF/HF/SATCOM radios with field expedient antennas.

Prerequisite. KFAM-704, KFAM-710.

External Syllabus Support. Field radio(s), antenna construction materials.

MMT-262 S

Goal. Encode and decode messages.

Requirement. Given an ACEOI, encode and decode messages and exchange coded alpha or numeric characters, to authenticate radio communications.

Performance Standards. Perform proper authentication of radio communication.

Prerequisite. Lecture A-18, KFAM-704.

MMT-263 L

Goal. Operate and use MMT equipment.

Requirement. Demonstrate use and operation of following MMT equipment:

(1) AN/PVS-5/7 and AN/AVS-9 Night Vision Devices.
(2) VS-17 Marker Panels.
(3) Field Marker Lights (i.e. ACR/L-32 lights).
(4) AN/GRA-39.
(5) AN/TPN-30A Marine Remote Area Approach & Landing System (MRAALS).
(6) AN/TPN-46 DAME.
(7) MEP-531.
(8) AN/PSN-11 Precision Lightweight Global Positioning System Receiver (PLGR).
(9) AN/PPN-19 Portable Radar Beacon.

Performance Standards. Accurately identify and demonstrate the proper use of the above MMT equipment.

Prerequisite. Lectures B-17, KFAM-702, KFAM-710.

MMT-264 L

Goal. Perform as a MMT member.

Requirement. During an operation or training exercise, perform as an MMT member utilizing required equipment, while under the supervision of a qualified MMT Leader. Conduct the following:

(1) Equipment readiness.
(2) MMT and aircrew briefings.
(3) Site set up and tear down.
(4) Insertion and extraction.

Performance Standards. Successfully perform operations as an MMT member.

Prerequisite. MMT-260, MMT-262, MMT-263.

External Syllabus Support. TLZ lighting and marking equipment.

MMT-265 L/S

Goal. Conduct launches and recoveries in EMCON conditions.

Requirement. In a field environment, conduct EMCON launches and recoveries. Demonstrate usage of the following:

(1) Prowords and brevity codes.
(2) Light gun signals.

Performance Standards. Successfully launch and recover aircraft during EMCON conditions.

Prerequisite. KTGC-823.

MMT-266E E L

Goal. Qualify as an MMT member.

Requirement. During an operation or a field exercise, demonstrate proficiency as an MMT member. Perform the following:

(1) Planning.
(2) Personnel and equipment readiness.
(3) MMT and aircrew briefing.
(4) Site set up and tear down.
(5) Insertion and extraction.

Performance Standards. Successfully set up and tear down at least one day and one night HLZ/TLZ.

Prerequisite. MMT-260 through MMT-263.

233. CORE SKILL ADVANCED TRAINING (7252/7253/7254)

1. General

a. This phase progresses the controller through the remaining core skills required to be qualified on all combat crewmember positions. The controller shall continue training and achieve NATOPS certifications on advanced operating positions, Tower Local Control, Radar Arrival/Departure Control and/or Radar Approach Control. The controller will begin to integrate acquired ATC skills into the MACCS, Joint Air Command and Control Systems, and international military and civilian command and control to include ATC architectures. During this period training is focused on the expeditionary capabilities of the MATCD with additional qualification as an MMT Leader. Additional formal training will occur late in the 300 series through completion of the On the Job Trainer Instruction (OJTI), Advanced MATCD Course, and Advanced Radar Air Traffic Control Course (ARATC). These courses, in combination with the completion of core skills training, will prepare the controller to function as a trainer for controllers entering the 200 and 300 levels of this syllabus.

b. Core Skill Basic Stages

(1) Tower Local Control (TLC).
(2) Arrival/Departure Control (ADC).
(3) Approach Control (APC).
(4) MACS Mobile Team (MMT).
(5) Crew Management (CMT).
(6) Battle Management (BMT).
(7) Terminal Instrument Procedures (TERP).

2. Tower Local Control (TLC) Training

a. Purpose. To develop advanced knowledge of ATC rules, procedures and operations in a tower environment.

b. Administrative Notes. None.

c. Prerequisite. Completion of all BTC qualifications.

d. Refresher Training. Refresher training is required once a Core Skill Advanced qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the controller will complete "R" coded events in the 300-level of this syllabus.

e. Crew Requirements. None.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 3 events.

TLC-310 L

Goal. Perform the duties of a Tower Local Controller (TLC).

Requirement. In a control tower, under the supervision of an OJTI, perform the duties and responsibilities of a TLC.

Performance Standards. Demonstrate the proficiency required to be recommended for qualification as a TLC.

Prerequisite. All KTWR and KTLC knowledge events.

TLC-311 L/S

Goal. Conduct launches and recoveries in EMCON conditions.

Requirement. In a garrison or field environment, conduct EMCON launches and recoveries. Demonstrate usage of the following:

(1) Prowords and brevity codes.
(2) Light gun signals.

Performance Standards. Successfully launch and recover aircraft during EMCON operations.

Prerequisite. KTGC-823.

TLC-312EYR L

Goal. Qualify as a Tower Local Controller (TLC).

Requirement. In a garrison or field environment, under direct supervision of a CTO Examiner and in compliance with established NATOPS evaluation criteria; apply knowledge and conduct ATC procedures in a safe, orderly, and expeditious manner at the TLC position.

Performance Standards. Pass an OJT examination demonstrating knowledge and proficiency while performing as a TLC.

Prerequisite. TLC-310, and 6 months as a controller at one location (per CFR Part 65.39).

3. Arrival/Departure Control (ADC) Training

a. Purpose. To develop advanced knowledge of ATC rules, procedures and operations in a radar environment.

b. Administrative Notes. None.

c. Prerequisite. Completion of all BRC qualifications.

d. Refresher Training. Refresher training is required once a Core Skill Advanced qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the controller will complete "R" coded events in the 300 level of this syllabus.

e. Crew Requirements. None.

f. Academic Training. In addition to MAWTS-1 ASPs in appendix A, some events require the controller to be familiar with knowledge syllabus events

in the 700 and 800-levels. All knowledge events must be evaluated through using an oral or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 3 events.

ADC-340 S

Goal. Control in an Arrival/Departure Control (ADC) environment using the simulation mode of the AN/TSQ-131.

Requirement. Utilizing the AN/TSQ-131 equipment under the supervision of an OJTI perform the functions of an ADC.

Performance Standards. Successfully conduct a simulated Arrival scenario of five A/C simultaneously, incorporating inter/intra facility handoffs, point-outs, approval requests, and approved strip marking.

Prerequisite. BRC-221.

ADC-341 L

Goal. Perform the duties of an Arrival/Departure Controller (ADC).

Requirement. In a radar environment, under direct supervision of an OJTI, perform the duties and responsibilities of an ADC.

Performance Standards. Demonstrate proficiency required to be recommended for qualification as an ADC position.

Prerequisite. All KRDR and KAPC knowledge events.

ADC-342EYR L

Goal. Qualify as an Arrival/Departure Controller (ADC).

Requirement. In a garrison environment, under direct supervision of an ATCSE and in compliance with established NATOPS evaluation criteria; apply knowledge and conduct ATC procedures in a safe, orderly, and expeditious manner at the ADC position.

Performance Standards. Pass an OJT examination demonstrating knowledge and proficiency while performing as an ADC.

Prerequisite. ADC-340.

4. Approach Control (APC) Training

a. Purpose. To develop advanced knowledge of ATC rules, procedures and operations in a radar environment.

b. Administrative Notes. None.

c. Prerequisite. Completion of all BRC qualifications.

d. Refresher Training. Refresher training is required once a Core Skill Advanced qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the controller will complete "R" coded events in the 300 level of this syllabus.

e. Crew Requirements. None.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 6 events.

APC-350 S

Goal. Control in an Approach Control (APC) environment using the simulation mode of the AN/TSQ-131.

Requirement. Utilizing the AN/TSQ-131 equipment under the supervision of an OJTI perform the functions of an APC.

Performance Standards. Must successfully conduct a simulated Approach scenario of five A/C simultaneously, incorporating inter/intra facility handoffs, point-outs, approval requests, and approved strip marking.

Prerequisite. BRC-221.

APC-351YR Y,R S

Goal. Perform non-radar approach control services.

Requirement. In a non-radar environment, under the supervision of an OJTI, perform the duties and responsibilities of a non-radar Approach Controller.

Performance Standards. Must successfully conduct a simulated non-radar scenario of five A/C simultaneously, incorporating inter/intra facility handoffs, point-outs, approval requests, and approved strip marking.

Prerequisite. KAPC-842.

APC-352 L

Goal. Perform the duties of an Approach Controller (APC).

Requirement. In a radar environment, under direct supervision of a OJTI, perform duties and responsibilities of an APC Controller.

Performance Standards. Perform the duties and responsibilities of an Approach Controller under direct supervision.

Prerequisite. All KRDR and KAPC knowledge events.

APC-353EYR E,Y,R L

Goal. Qualify as an Approach Controller (APC).

Requirement. In a garrison or field environment, under direct supervision of a ATCS Examiner and in compliance with established NATOPS evaluation criteria; apply knowledge and conduct ATC procedures in a safe, orderly, and expeditious manner at the APC position.

Performance Standards. Pass an OJT examination demonstrating knowledge and proficiency to perform an APC.

Prerequisite. APC-352.

APC-354 L

Goal. Perform the duties of a Sector Controller.

Requirement. In a radar environment, under direct supervision of an OJTI, perform the duties and responsibilities of a Sector Controller.

Performance Standards. Perform the duties and responsibilities of a Sector Controller as defined in NAVAIR 00-80T-114.

Prerequisite. All BRC Qualifications. All KRDR and KAPC knowledge events.

APC-355EYR E,Y,R L

Goal. Qualify as a Sector Controller.

Requirement. In a garrison or field environment, under direct supervision of a ATCS Examiner and in compliance with established NATOPS evaluation criteria; apply knowledge and conduct ATC procedures in a safe, orderly, and expeditious manner at the Sector Control position.

Performance Standards. Pass an OJT exam demonstrating knowledge and proficiency to perform as a Sector Controller.

Prerequisite. APC-354.

5. Marine ATC Mobile Team (MMT) Training

a. Purpose. To develop advanced knowledge of MMT tactics and procedures.

b. Administrative Notes. None.

c. Prerequisite. MMT-266E.

d. Refresher Training. Refresher training is required once a Core Skill Advanced qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the controller will complete "R" coded events in the 300 level of this syllabus.

e. Crew Requirements. A minimum 6 Marine MMT / MMT Leader Instructor.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 2 events.

MMT-360 L

Goal. Perform as an MMT Leader.

Requirement. During an operation or training exercise while utilizing required equipment and under the supervision of a qualified MMT Leader, perform as an MMT Leader.

(1) Recommend/assist in TLZ/HLZ site selection and survey.
(2) Coordinate with civil and military control agencies.
(3) Prepare personnel and equipment readiness.
(4) Conduct MMT and aircrew briefings.
(5) Insertion and extraction methods.
(6) Mark TLZ/HLZs.

Performance Standards. With assistance from a qualified MMT leader, perform the above requirements.

Prerequisite. KFAM-700, KFAM-702, KFAM-703, KFAM-704, KFAM-716, MMT-266.

MMT-361E E L

Goal. Qualify as an MMT Leader in a field exercise.

Requirement. During an operation or field exercise, with a qualified MMT Leader Instructor, qualify as an MMT Leader. Demonstrate proficiency in the following:

(1) Site selection.
(2) Personnel and equipment readiness.
(3) MMT and aircrew briefings.
(4) Insertion and extraction.
(5) Mark TLZ/HLZs.

Performance Standards. Without assistance, successfully perform the above requirements.

Prerequisite. MMT-360.

6. Crew Management (CMT) Training

a. Purpose. To develop basic knowledge of management techniques and procedures required leading and supervising an ATC crew.

b. Administrative Notes. None.

c. Prerequisite. None.

d. Refresher Training. Refresher training is required once a Core Skill Advanced qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the controller will complete "R" coded events in the 300 level of this syllabus.

e. Crew Requirements. None.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 4 events.

CMT-370 L/S

Goal. Extract pertinent information from the ATO and ACO.

Requirement. During an operation or a training exercise, extract pertinent information and aircraft operating constraints from the ATO/SPINS and ACO.

Performance Standards. Develop a flight schedule utilizing the information found in the ATO/SPINS and ACO.

Prerequisite. Lecture A-09 and KFAM-711.

CMT-371 L/S

Goal. Conduct an ATC tactical crew brief.

Requirement. During an operation, training exercise or through simulation, properly conduct an ATC tactical crew brief. Brief the following areas:

(1) Enemy and friendly situation.
(2) Base Defense Zone (BDZ) status.
(3) Air defense warning condition.
(4) Status of alert.
(5) Weapons release condition.
(6) Continuing missions.
(7) Scheduled events.
(8) Published ATO.
(9) Assigned frequencies/call signs.
(10) Weather.
(11) Equipment status.
(12) Crew requirements.
(13) Watch Schedule.
(14) Training Plan.
(15) Casualty procedures.
(16) Emergency procedures.
(17) Casualty procedures.
(18) Emergency procedures.
(19) ACM's/Range Information
(20) SPINS Information

Performance Standards. Successfully conduct a tactical ATC crew brief that contains the information above.

Prerequisite. KFAM-716, Lectures A-12, A-13, B-1 through B-13.

CMT-372EYR E,Y,R L

Goal. Perform as a Tower Supervisor (TS).

Requirement. Under direct supervision of a qualified evaluator, perform the duties and responsibilities of a TS per NAVAIR 00-80T-114.

Performance Standards. Pass an OJT exam demonstrating knowledge and proficiency while performing as a TS.

Prerequisite. KFAM-806, TLC-312.

CMT-373EYR E,Y,R L

Goal. Perform as a Radar Supervisor (RS).

Requirement. Under direct supervision of a qualified evaluator, perform the duties and responsibilities of a RS per NAVAIR 00-80T-114.

Performance Standards. Pass an OJT exam demonstrating knowledge and proficiency while performing as a RS.

Prerequisite. KFAM-806, ADC-342 or APC-353 (as applicable).

7. Battle Management (BMT) Training

a. Purpose. To develop advanced knowledge of tactical requirements in an ATC environment.

b. Administrative Notes. None.

c. Prerequisite. None.

d. Refresher Training. Refresher training is required once a Core Skill Advanced qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the ATCFO will complete "R" coded events in the 300 level of this syllabus.

e. Crew Requirements. None.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 14 events.

BMT-380 S/L

Goal. Plan and develop MATCD communications interface with MACCS and external agencies.

Requirement. During simulation or actual operation, plan, develop, and implement the communications architecture for MATCD interface with the MACCS and external agencies by using an ACEOI, and Annex K of an operations order (OPORD).

(1) Identify and submit communications requirements.
(2) Provide a communications connectivity chart.

Performance Standards. Pass an exam with a minimum score of 80%

Prerequisite. KFAM-700, KFAM-704 through KFAM-706, Lecture B-26.

BMT-381 L

Goal. Prepare, request, and supervise an FAA flight inspection/ certification.

Requirement. During an operation, a field exercise, or while in garrison, conduct a tactical or FAA flight inspection.

(1) Request tactical or FAA flight inspection from the appropriate agency.
(2) Prepare for NAVAID/RADAR certification.
(3) Submit for approval applicable instrument flight procedures for a NAVAID/RADAR.
(4) Prepare tactical flight check profiles associated with permissive and restrictive environments.

Performance Standards. Successfully schedule and plan for a flight inspection.

BMT-382 L/S

Goal. Identify and plot air control measures on a map.

Requirement. During an operation or a training/simulated exercise, identify, describe, and plot the designated air control measures. Plot the following items on a map:

(1) Base Defense Zones (BDZ).
(2) Minimum Risk Routes (MRR).
(3) High Density Airspace Control Zone (HIDACZ).
(4) Standard Use Army Aircraft Flight Routes (SAFFR).
(5) Low Level Transit Routes (LLTR).
(6) Amphibious Objective Area (AOA).
(7) Airspace Coordination Area (ACA).
(8) Multi-Use Control Points.

Performance Standards. Pass an exam with a minimum of 80%

Prerequisite. Lecture B-18.

BMT-383 S/L

Goal. Operate the Marine Air Traffic Control and Landing System (MATCALS) software.

Requirement. Describe the components of and operate the MATCALS, to include:

(1) AN/TPS-73 Air Traffic Control Subsystem (ATCS).
(2) AN/TPN-22 Automatic Landing System (ALS).
(3) AN/TSQ-131 Control and Communication Subsystem (CCS).

Execute the following functions:

(1) Load FOC software into MMD via Magnetic Tape Unit (MTU).
(2) Load FOC software into MMD via Serial Data Bus (SDB).
(3) Load and verify System Initialization (SI) Data.
(4) Establish and exit a TDL-B circuit.
(5) Emergency circuit exit TDL-B.
(6) Use of filters against TDL-B.
(7) Build maps.

Performance Standards. Pass a written and performance exam with a minimum of 80%.

BMT-384 E L

Goal. Explain the six functions of Marine aviation.

Requirement. Describe the six functions of Marine aviation:

(1) AAW.
(2) OAS.
(3) Assault support.
(4) Electronic warfare.
(5) Reconnaissance.
(6) Control of aircraft and missiles.

Performance Standards. Pass an exam with a minimum score of 80%.

BMT-385 S/L

Goal. Identify and employ the MATCD equipment.

Requirement. Describe capabilities of all MATCD equipment to include:

(1) AN/HD-1099, Air Conditioner.
(2) AN/MEP-006A, 60 kW, 60Hz, Generator with Loadbank.
(3) AN/MEP-531 Generator.
(4) VM-1503 Mobilizer.
(5) 9503 Mobilizer.
(6) M1022 Mobilizer.
(7) M998, HMMWV.
(8) SM-170, Maintenance Vans.
(9) AN/TPN-30A, Marine Remote Area Approach Landing System.

(10) AN/TPS-73, Air Traffic Control Subsystem.
(11) AN/TPN-22, All-weather Landing Subsystem.
(12) AN/TSQ-131, Control and Communication Subsystem.
(13) AN/TRN-44, TACAN.
(14) AN/TSQ-216, Remote Landing Site Tower.
(15) AN/TSQ-120, Expeditionary Control Tower.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-701, KFAM-710, KFAM-712.

BMT-386 L

Goal. Introduce the role, mission and organization of the MACCS.

Requirement. State the role, mission and organization of the MACCS to include:

(1) Fundamental mission, combat force structure and organization.
(2) Basic air control/air defense operational agencies, their missions and organization within the MACCS.
(3) Roles, functions, ranks, job titles and chain of command of key decision-making personnel in the TACC, TAOC, DASC, and MATCD.
(4) Capabilities, functions and configurations of the MACCS agencies:
    (a) Tactical Air Command Center (TACC).
    (b) Tactical Air Operations Center (TAOC).
    (c) Sector Anti-Air Warfare Center (SAAWC).
    (d) Early Warning Control Site (EW/C).
    (e) Direct Air Support Center (DASC).
    (f) Marine Air Traffic Control Detachment (MATCD).
(5) Mission and capabilities of LAAD Bn, MWCS, and VMU.
(6) Different Forward Operating Bases (FOBs) supported by the MATCD. Describe the following:
    (a) Main Air Base.
    (b) Air Facility.
    (c) Rapid Ground Refueling (RGR) procedures.
    (d) Air Sites (Tactical Landing Zone (TLZ), Helicopter Landing Zones (HLZ).
    (e) Air Points (Forward Arming and Refueling Point [CFRP], Rapid Ground Refueling [RGR], Lager Point).

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-700, KFAM-708, KFAM-709.

BMT-387 S/L

Goal. Introduction to Tactical Digital Link (TDL).

Requirement. State TDL knowledge to include:

(1) Define TDL.
(2) Identify existing TDLs and the characteristic of each.
(3) List TDLs utilized by the Marine Corps.

(4) List TDLs utilized by the MATCD.
(5) Define Data Link Reference Point (DLRP), Unit System Coordination Center (USCC), Unit Position (UPOS) and describe the difference between data grid and display grid.
(6) Identify the capabilities of each Service's command and control agencies to conduct one or more of the TDLs.
(7) Identify major interface considerations with the following:
    (a) TDL-A.
    (b) TDL-B.
    (c) GBDL.
    (d) TDL-C.
    (e) TDL-J.
(8) Specific considerations for data link operation.
(9) Voice nets to be activated for joint service operations.
(10) Major considerations for selecting TDL systems.

Performance Standards. Pass an exam with a minimum score of 70%.

Prerequisite. KFAM-730, KFAM-731.

BMT-388 S/L

Goal. Introduce MATCD site selection.

Requirement. Participate in the planning and conduct of a site survey for the placement of a MATCD. Perform the following:

(1) Select a MATCD site considering:
    (a) Mission.
    (b) Tower site with best view of airport, Class D airspace, and patterns.
    (c) PAR site that affords clear avenues.
    (d) Reconnaissance of selected sites.
    (e) ASR site that provides minimal terrain masking.
    (f) Radar coverage of the area of ATC responsibility.
    (g) Camouflage.
    (h) Site security.
    (i) Support equipment.
(2) Account for the following MATCD equipment characteristics:
    (a) Sighting limits of the radar set.
    (b) Optimum runway/sector coverage.
    (c) Obstructions to radar view.
    (d) Terrain characteristics.
    (e) Typical sighting configurations.
    (f) Power requirements.
    (g) Installation requirements.
    (h) Wind survival tie-down procedures.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-701, KFAM-713.

BMT-389 S/L

Goal. Conduct embarkation of ATC equipment.

Requirement. Identify requirements and prepare required data to aid in the construction of a load plan for amphibious shipping and fixed wing air transport platforms including C-5A, C-141B, C-17 and C-130. Specifically describe how many lifts of each aircraft listed above it would take to move each of the following systems with associated support equipment:

(1) AN/TSQ-120 Expeditionary Control Tower.
(2) AN/TRC-195 Mobile Control Tower.
(3) AN/TSQ-216 Remote Landing Site Tower.
(4) AN/TSQ-131 Control and Communication Subsystem.
(5) AN/TRN-44 TACAN.
(6) AN/TPN-30A Marine Remote Area Approach Landing System.
(7) AN/TPN-22 All-Weather Landing Subsystem.
(8) TSM-170 Maintenance Van.
(9) AN/TSQ-73 Surveillance Radar.
(10) Equipment requiring movement with a 30-ton crane.
(11) Equipment requiring movement with a 7.5-ton crane.
(12) Equipment requiring movement with a 10,000 lb forklift.
(13) Equipment requiring movement with a 6,000 lb forklift.
(14) Ground transportation requirements to the POE/site.
(15) Equipment requiring movement with a RATCH.
(16) Pallet construction and packing.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-701.

BMT-390 L

Goal. Understand civil and combat airspace management.

Requirement. Manage airspace issues in a civil or combat environment. Describe the following:

(1) Principal airspace control facilities and the types of control they employ.
(2) Characteristics of control points.
(3) The four airspace management principles.
(4) Factors used to determine mix of positive and procedural control.
(5) MACCS intelligence collection and dissemination procedures and capabilities.
(6) Command and control information flow.

Performance Standards. Pass an exam with a minimum score of 80%.

BMT-391 L

Goal. Understand the Theater Air Ground System (TAGS).

Requirement. Demonstrate knowledge of the operational facilities and units that comprise the TAGS. Address the organization, roles, capabilities, and limitations of these facilities and how they participate in and contribute to the joint air fight.

Performance Standards. Pass an exam with a minimum score of 80%.

BMT-392 L/S

Goal. Introduce two-way communications with MACCS agencies.

Requirement. In a classroom setting, field environment, or during a simulated exercise, using appropriate communications equipment: relay aircraft launch and recovery information as necessary, complete a communication transfer/handover of an aircraft to/from TAOC or DASC.

Performance Standards. Establish a communication link with at least one receiving unit utilizing either voice or TDL and complete the requirement.

Prerequisite. KFAM-700, KFAM-705, KFAM-706.

CMT-393 S

Goal. Conduct ATC operations in a Nuclear, Biological and Chemical (NBC) environment.

Requirement. In a simulated NBC environment utilizing ATC detachment equipment and in MOPP level IV, perform ATC functions.

Performance Standards. While in MOPP IV, provide for the safe, orderly, and expeditious movement of air traffic, in either a radar or tower environment.

External Syllabus Support. Voice amplifier.

8. Terminal Instrument Procedures (TERP) Training

a. Purpose. To develop basic knowledge of TERPS development and construction.

b. Administrative Notes. None.

c. Prerequisite. None.

d. Refresher Training. Refresher training is required once a Core Skill Advanced qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the ATCFO will complete "R" coded events in the 300 level of this syllabus.

e. Crew Requirements. None.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 2 events.

TERP-395 L

Goal. Introduce Terminal Instrument Procedures (TERPS).

Requirement. State the following:

(1) Purpose of TERPS.
(2) Two types of TERPS.
(3) Four segments in procedures construction.
(4) ATC NAVAIDS.
(5) Two areas of each segment.
(6) Required obstacle clearance for each approach segment.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-805.

TERP-396E E L

Goal. Develop an instrument approach.

Requirement. Research and develop an instrument approach procedure.

Performance Standards. With the aid of references, develop a minimum of two instrument approaches (precision/non-precision) for each NAVAID/radar system assigned to a MCAS or MATCD using TERPS.

Prerequisite. TERP-395, KFAM-805.

234. CORE PLUS TRAINING (7252/7253/7254/7291)

1. General

a. This phase focuses on controller functions solely in managerial leadership positions as a Tower or Radar Supervisor, Branch and/or Crew Chief, NCOIC and MACS Operations Chief. As such, the controller assists facility officers, detachment commanders and operations officers in the planning and execution of all phases of garrison and expeditionary ATC services and the integration of this ability into the warfighting capability of Marine Corps aviation worldwide. They will require extensive knowledge and experience running the gamut of ATC and air command and control arenas. Formal training offered through various academic courses of instruction is available (listed in par. 210) to obtain the knowledge base that enables the controller to be fully functional as an assistant planner in joint and combined operations and exercises involving the MACCS. Additionally, the controller will bring a broad base of experience to the Marine Corps ability to integrate seamlessly into the civil and military ATC architecture in the U.S. and internationally.

b. Core Plus Stages

(1) Crew Management (CMT).
(2) Battle Management (BMT).
(3) Terminal Instrument Procedures (TERP).

2. Crew Management (CMT) Training

a. Purpose. To develop advanced knowledge of management techniques and procedures required leading and supervising an ATC crew.

b. Administrative Notes. None.

c. Prerequisite. Attain a Skill Designator 7252, 7253, or 7254, or MOS 7291.

d. Refresher Training. Refresher training is required once a Core Plus qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the controller will complete "R" coded events in the 400 level of this syllabus.

e. Crew Requirements. None.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 1 event.

CMT-470 L

Goal. Perform as an Air Traffic Control Facility Watch Officer (FWO).

Requirement. Perform the duties and responsibilities of an ATCFWO per NAVAIR 00-80T-114.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. KFAM-800 through KFAM-804, KFAM-806, BTC-224 and BRC-233.

3. Battle Management (BMT) Training

a. Purpose. To develop advanced knowledge of tactical requirements in an ATC environment.

b. Administrative Notes. None.

c. Prerequisite. None.

d. Refresher Training. Refresher training is required once a Core Plus qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the controller will complete "R" coded events in the 400 level of this syllabus.

e. Crew Requirements. None.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 8 events.

BMT-480 L

Goal. Perform as a MATCD NCOIC.

Requirement

(1) Assist and make recommendations to the MATCD commander concerning all aspects of the detachment.
(2) Provide input to the MATCD commander with regard to the management of personnel.
(3) Coordinate assignment and supervision of enlisted Marines to include FAP requirements.
(4) Supervise the professional development of enlisted Marines.
(5) Coordinate with internal and external agencies as required.
(6) Coordinate and supervise the administrative functions of the detachment including tracking and reporting the training status of unit controllers.
(7) Assist the MATCD commander in preparing the following:
    (a) Deployment plans and orders.
    (b) Embarkation planning.
    (c) TERPS for deployment locations.
    (d) Recommendations for airspace requirements for deployments.
    (e) Universal Needs Statement (UNS).
    (f) Submission of Military Training Requirement Review (MTRR).

Performance Standards. Perform at minimum 80% of the above requirements and be permanently assigned as a MATCD NCOIC.

Prerequisite. KFAM-700, KFAM-701, KFAM-712, KFAM-714, KFAM-715.

BMT-481 L

Goal. Perform as a MACS Operations Chief (Ops Chief).

Requirement

(1) Provide assistance and make recommendations to the operations officer concerning all aspects of the operational employment of the squadron, both in garrison and while deployed to include:
    (a) TEEP preparation.
    (b) SORTS review.
    (c) Intelligence requirements.
(2) Supervise the administration of the S-3 section.
(3) Direct the preparation, editing, routing and maintenance of all correspondence and reports required.
(4) Assist in the preparation of squadron operations plans, orders and training schedules.
(5) Advise the operations officer on assignment of all enlisted personnel.
(6) Provide guidance and assist the ATC Chief, Training Chief, MATCD NCOIC, and NBC Chief.
(7) Supervise the professional development of enlisted Marines assigned.
(8) Coordinate all squadron operational, training, and inspection requirements with higher headquarters.

(9) Conduct other duties as assigned by the operations officer.

Performance Standards. Perform at least 80% of the requirements and be assigned to a MACCS as an Ops Chief.

Prerequisite. KFAM-700.

BMT-482 L

Goal. Perform as a MATCD Watch Commander (WC).

Requirement. During an operation or a field exercise, perform the duties and responsibilities of a WC. Demonstrate proficiency in the following:

(1) Crew management.
(2) MACCS information flow if required.
(3) Interface with external MACCS agencies as required.
(4) Control judgment.
(5) Traffic management.
(6) Operating procedures and method.
(7) Coordination and communication.
(8) Phraseology.
(9) Equipment.

Performance Standards. Perform at minimum 80% of the above requirements and be assigned to a MATCD as a WC.

Prerequisite. The MATCD commander determines qualification as an MATCD WC.

BMT-483 L

Goal. Operate within a TACC.

Requirement. Work within a TACC during an exercise or operation.

Performance Standards. Describe the functions of the leadership and operational positions within the TACC with 80% accuracy.

Prerequisite. KFAM-700, KFAM-711.

BMT-484 L

Goal. Operate within a TAOC.

Requirement. Work within a TAOC during an exercise or operation.

Performance Standards. Describe the functions of leadership and operational positions within the TAOC with 80% accuracy.

Prerequisite. KFAM-700, KFAM-708, KFAM-709.

BMT-485 L

Goal. Operate within a DASC.

Requirement. Work within a DASC during an exercise or operation.

Performance Standards. Describe the functions of the leadership and operational positions within the DASC with 80% accuracy.

Prerequisite. KFAM-700 and KFAM-703.

BMT-486 L

Goal. Operate within LAAD.

Requirement. Work within LAAD during an exercise or operation.

Performance Standards. Describe the functions of the leadership and operational positions within LAAD with 80% accuracy.

Prerequisite. KFAM-700.

BMT-487 L

Goal. Operate within VMU.

Requirement. Work within VMU during an exercise or operation.

Performance Standards. Describe the functions of the leadership and operational positions within VMU with 80% accuracy.

Prerequisite. KFAM-700 .

4. Terminal Instrument Procedures (TERP) Training

a. Purpose. To develop advanced knowledge of TERPS development and construction.

b. Administrative Notes. None.

c. Prerequisite. None.

d. Refresher Training. Refresher training is required once a Core Plus qualified controller has been absent from an ATC billet for 18 months or longer. Upon return to an appropriate ATC billet, the controller will complete "R" coded events in the 400 level of this syllabus.

e. Crew Requirements. None.

f. Academic Training. In addition MAWTS-1 ASPs in appendix A, some events require the controller to complete 700 and 800 level events. All knowledge events must be evaluated through performance or written test with a minimum score of 80%.

g. Live and Simulator Event Training. 1 event.

TERP-495E E L

Goal. Qualify as a Terminal Instrument Procedures (TERPS) Specialist.

Requirement. While at a MCAS or MATCD, manage and maintain a TERPS program.

(1) Review all current terminal instrument procedures.
(2) Develop new procedures as required.
(3) Maintain and file obstacle evaluations.
(4) Perform and submit required reviews.

Performance Standards. Be certified full mission capable during an evaluation or pass an FAA flight check and submit procedure for publication.

Prerequisite. TERP-395, TERP-396, KFAM-805, TERPS Basic Course, and MarineNet Course completion.

240. INSTRUCTOR (INST) TRAINING

1. General

a. This phase progresses the controller towards designation as an On-The-Job Training Instructor (OJTI) and a Weapons and Tactics Instructor (WTI)-Air Control. At the completion of this level, the controller is capable of instructing junior controllers in all aspects of ATC in a garrison or field environment.

b. Instructor Qualification Stages

(1) On The Job Instructor (OJTI).
(2) Weapons Tactics Instructor (WTI)-Air Control.
(3) MATC Mobile Team (MMT) Leader Instructor.

c. Purpose. This POI is to be completed prior to designation as an instructor in a particular stage of training. Syllabus requirements are designated as Qualification (QUAL).

d. Prerequisite. The controller must be experienced enough to be able to instruct others in ATC leadership and supervisory functions.

e. Academic Training. None.

f. Live and Simulator Event Training. 3 events.

INST-500 L

Goal. Qualify as an OJT Instructor (OJTI).

Requirement. Perform as an OJT Instructor. In a garrison or field environment, provide OJTI instruction to student controllers. Demonstrate proficiency in the following:

(1) Preferred methods of teaching through a combination of direction, demonstration, and practical application.
(2) Documentation of training on the Air Traffic Controller Position Evaluation.

(3) Communicating to a trainee an evaluation of their performance to include their overall performance, an identification of strengths and weaknesses, and specific recommendations for improvement.

Performance Standards. Successfully complete the TYCOM OJTI Instructor Course and applicable NATOPS qualifications.

INST-501 L

Goal. Qualify as a Weapons Tactics Instructor (WTI)-Air Control.

Requirement. Perform as a WTI for the unit assigned.

Performance Standards. Graduate the WTI C3 Course and be certified by MAWTS-1.

INST-502 L

Goal. Qualify as a MMT Leader Instructor.

Requirement. Perform as the MMT Leader Instructor.

Performance Standards. Graduate the MMT Leaders Course and be certified by MAWTS-1 to be an MMT Leader Instructor.

250. QUALIFICATIONS AND DESIGNATIONS

1. General

a. This phase contains tracking codes and events designed to facilitate training management. This level also provides community standardization for combat leadership designation.

b. The 600-level events are for the sole purpose of tracking qualifications and designations.

c. The controller must be experienced enough to successfully provide ATC leadership and supervision in the air traffic control community.

2. Enlisted Controller Qualifications

a. Qualification codes do not constitute events themselves. Rather, they will be logged upon completion of qualification requirements; after the commander has signed the qualification letter and filed it the MACCS performance record; and other administrative actions are completed. Requirements for maintaining qualifications are detailed in the Aviation T&R Program Directive. Refer to the Core Skills and Core Plus qualification events for requirements.

b. Tower Flight Data (TFD) qualification. An enlisted controller is TFD qualified upon completion of required Core Skill Basic events. An entry shall be made in the individual MACCS performance record stating the qualification.

c. Tower Ground Control (TGC) qualification. An enlisted controller is TGC qualified upon completion of required Core Skill Basic events. An entry shall be made in the individual MACCS performance record stating the qualification.

d. Clearance Delivery Controller qualification. An enlisted controller is Clearance Delivery qualified upon completion of required Core Skill Basic events. An entry shall be made in the individual MACCS performance record stating the qualification.

e. Radar Flight Data (RFD) qualification. An enlisted controller is RFD qualified upon completion of required Core Skill Basic events. An entry shall be made in the individual MACCS performance record stating the qualification.

f. Radar Final Controller (RFC) qualification. An enlisted controller is RFC qualified upon completion of required Core Skill Basic events. An entry shall be made in the individual MACCS performance record stating the qualification.

g. Data Link Coordinator (DLC) qualification. An enlisted controller is DLC qualified upon completion of required familiarization training in the 700 and 800 level events. An entry shall be made in the individual MACCS performance record stating the qualification.

h. Marine ATC Mobile Team Member (MMT) qualification. An enlisted controller is qualified as an MMT member upon completion of required Core Skills and Core Plus events. An entry shall be made in the individual MACCS performance record stating the qualification.

i. Marine ATC Mobile (MMT) Team Leader qualification. An enlisted controller is qualified as MMT leader upon completion of required Core Skills and Core Plus events. An entry shall be made in the individual MACCS performance record stating the qualification.

j. Tower Local Controller (TLC) qualification. An enlisted controller is TLC qualified upon completion of required Core Skill Advanced events. An entry shall be made in the individual MACCS performance record stating the qualification.

k. Arrival/Departure Controller (ADC) qualification. An enlisted controller is ADC qualified upon completion of required Core Skill Advanced events. An entry shall be made in the individual MACCS performance record stating the qualification.

l. Approach Controller (APC) qualification. An enlisted controller is APC qualified upon completion of required Core Skill Advanced events. An entry shall be made in the individual MACCS performance record stating the qualification.

m. Sector Controller (SC) qualification. An enlisted controller is SC qualified upon completion of required Core Skill Advanced events. An entry shall be made in the individual MACCS performance record stating the qualification.

n. Tracking Training Events. 12 events.

QUAL-600

Goal. Qualify as On -The -Job Instructor (OJTI).

Prerequisite. INST-500.

QUAL-601

Goal. Qualify as and Enlisted Weapons and Tactics Instructor

Prerequisite. INST-501.

QUAL-602

Goal. Qualify as MMT Leader Instructor.

Prerequisite. INST-502.

QUAL-607

Goal. Qualify as a Tower Flight Data Controller.

Prerequisite. BTC-207.

QUAL-608

Goal. Qualify as a Clearance Delivery Controller.

Prerequisite. BTC-208.

QUAL-609

Goal. Qualify as a Tower Ground Controller.

Prerequisite. BTC-209.

QUAL-611

Goal. Qualify as a Tower Local Controller.

Prerequisite. TLC-312 and 6 continuous months as a controller at one location (per CFR Part 65.39).

QUAL-625

Goal. Qualify as a Radar Flight Data Controller.

Prerequisite. BRC-225.

QUAL-626

Goal. Qualify as a Radar Final Controller.

Prerequisite. BRC-226.

QUAL-633

Goal. Qualify as a Data Link Coordinator in compliance with established evaluation criteria.

Prerequisite. DLC-233.

QUAL-642

Goal. Qualify as an Arrival/Departure Controller.

Prerequisite. ADC-342.

QUAL-653

Goal. Qualify as an Approach Controller.

Prerequisite. APC-353.

QUAL-655

Goal. Qualify as a Sector Controller.

Prerequisite. APC-355.

QUAL-661

Goal. Qualify as an MMT Leader in a field exercise.

Prerequisite. MMT-361.

QUAL-666

Goal. Qualify as an MMT member.

Prerequisite. MMT-266E.

QUAL-695

Goal. Qualify as a TERPS Specialist.

Prerequisite. TERP-495.

3. Designations

a. Designation codes do not constitute events themselves. Rather, they will be logged upon being designated by the commanding officer or a direct representative; the designation letter shall be filed in the controller's MACCS performance record, and other administrative actions taken as appropriate. Requirements for designations are detailed in the Aviation T&R Program directive.

b. On-The-Job Instructor (OJTI) designation. An enlisted controller is designated an OJTI by the ATCFO or MATCD commander upon completion of required Core Skill and Core Plus events, and INST 500. A letter shall be inserted in the individual MACCS performance record stating the designation.

c. Weapons Tactics Instructor (WTI)-Air Control designation. An enlisted controller is certified as a WTI by the commanding officer or a direct representative when certified by MAWTS-1 upon graduation from the WTI C3 Course, and upon completion of INST-501. A letter shall be inserted in the individual MACCS performance record stating the designation.

d. Marine ATC Mobile Team Leader (MMT) Instructor designation. An enlisted controller is certified as a MMT Leader Instructor by the commanding officer or the MATCD commander when certified by MAWTS-1 upon graduation from the MMT Leaders Course, and upon completion of INST-502. A letter shall be inserted in the individual MACCS performance record stating the designation.

e. Terminal Instrument Procedures (TERPS) Specialist designation. An enlisted controller is certified as TERPS Specialist by NAVFIG and designated by the commanding officer, MATCD Commander or ATCFO upon completion of required events in the Core Skill and Core Plus events. A letter shall be inserted in the individual MACCS performance record stating the designation.

f. Control Tower Chief designation. An enlisted controller is designated a Control Tower Chief by the ATCFO or MATCD commander upon completion of required Core Skills and Core Plus events. A letter shall be inserted in the individual MACCS performance record stating the designation.

g. Control Tower Operator Examiner (CTOE) designation. An enlisted controller is designated a CTOE by the FAA upon completion of required Core Skills and Core Plus events. A letter shall be inserted in the individual MACCS performance record stating the designation.

h. Radar Chief designation. An enlisted controller is designated a Radar Chief by the ATCFO or MATCD commander upon completion of required Core Skills and Core Plus events. A letter shall be inserted in the individual MACCS performance record stating the designation.

i. Air Traffic Control Specialist Examiner (ATCSE) designation. The ATCFO or MATCD commander upon completion of required Core Skills and Core Plus events designates an enlisted controller as ATCSE. A letter shall be inserted in the individual MACCS performance record stating the designation.

j. Facility Watch Officer (FWO) designation. An enlisted controller is designated as FWO by the ATCFO or MATCD commander upon completion of required events in the Core Basic stage of training. A letter shall be inserted in the individual MACCS performance record stating the designation.

k. Training Chief designation. An enlisted controller is designated a Training Chief by the ATCFO or MATCD commander. Upon completion of required Core Skills and Core Plus events, a letter shall be inserted in the individual MACCS performance record stating the designation.

l. Tower Supervisor (TS) designation. An enlisted controller is designated a TS by the ATCFO or MATCD commander upon completion of required Core Plus events. A letter shall be inserted in the individual MACCS performance record stating the designation.

m. Radar Supervisor (RS) designation. An enlisted controller is designated an RS by the ATCFO or MATCD commander upon completion of required Core Plus events. A letter shall be inserted in the individual MACCS performance record stating the designation.

n. MATCD NCOIC designation. An enlisted controller is designated as a MATCD NCOIC by the commanding officer upon completion of required Core Plus events. A letter shall be inserted in the individual MACCS performance record stating the designation.

o. Operations Chief (OpsChf) designation. An enlisted controller is designated as OpsChf by the commanding officer or a direct representative upon completion of required Core Plus events. A letter shall be inserted in the individual MACCS performance record stating the designation.

p. MATCD Watch Commander (WC) designation. The MATCD commander upon completion of required Core Skill Basic events designates an enlisted controller as WC. A letter shall be inserted in the individual MACCS performance record stating the designation.

4. Tracking Training Events. 15 events.

DESG-600

Goal. Designate as an On The Job Training Instructor (OJTI).

Prerequisite. INST-500.

DESG-601

Goal. Designate as a Weapons Tactics Instructor (WTI)-Air Control.

Prerequisite. INST-501.

DESG-602

Goal. Designate as a Marine ATC Mobile Team (MMT) Leader Instructor.

Prerequisite. INST-502.

DESG-603

Goal. Designate as a Terminal Instrument Procedures (TERPS) Specialist.

Prerequisite. TERP-495.

DESG-670

Goal. Designate as a Tower Supervisor (TS) per NAVAIR 00-80T-114.

Prerequisite. CMT-372.

DESG-671

Goal. Designate as a Control Tower Chief per NAVAIR 00-80T-114.

Prerequisite. CMT-372.

DESG-672

Goal. Designate as a CTO Examiner (CTOE) per FAA 7220.1, CFR Part 65, and NAVAIR 00-80T-114

Prerequisite. CMT-372.

DESG-673

Goal. Designate as a Radar Supervisor (RS) per NAVAIR 00-80T-114.

Prerequisite. CMT-373.

DESG-674

Goal. Designate as a Radar Chief per NAVAIR 00-80T-114.

Prerequisite. CMT-373.

DESG-675

Goal. Designate as an ATC Specialist Examiner (ATCSE) per FAA 7220.1 and NAVAIR 00-80T-114.

Prerequisite. CMT-373.

DESG-676

Goal. Designate as a Facility Watch Officer (FWO) per NAVAIR 00-80T-114.

Prerequisite. CMT-474. Designation as FWO is determined by the ATCFO.

DESG-677

Goal. Designate as a Training Chief per NAVAIR 00-80T-114.

Prerequisite. TLC-310, and all ATCS ratings at the assigned facility and a minimum of 5 years ATC experience.

DESG-681

Goal. Designate as a MATCD NCOIC.

Prerequisite. BMT-481.

DESG-682

Goal. Designate as an Operations Chief (Ops Chief).

Prerequisite. BMT-482.

DESG-683

Goal. Designate as a Marine Air Traffic Control Detachment Watch Commander (WC).

Prerequisite. BMT-483. The MATCD commander determines this designation.

260. TACTICAL KNOWLEDGE TRAINING

1. Purpose. This section provides the knowledge required for successful completion of events throughout this syllabus.

a. Prerequisite. None.

b. Academic Training. All knowledge events must be tested using a written or oral exam and passed with a minimum score of 80%.

KFAM-700

Goal. Mission, tasks and organization of the MACS.

Requirement

(1) Mission of the MACS.
(2) MAGTF commander concept of employment.
(3) Three operational sections of a MACS ATC detachment (MATCD).
(4) Relationship of MATCD to the MACCS.
(5) MAGTF MACS employment options as applicable to:
    (a) Marine Expeditionary Unit (MEU).
    (b) Marine Expeditionary Brigade (MEB).
    (c) Marine Expeditionary Force (MEF).
    (d) Special Purpose MAGTF (SPMAGTF).

Reference. Lectures A-01 through A-08, MAWTS-1 ASP, and NAVAIR 00-80T-115.

KFAM-701

Goal. MATCD systems and support equipment.

Requirement. Locate, identify and state the nomenclature of the following MATCD support equipment:

(1) AN/HD-1099, Air Conditioner.
(2) AN/MEP-006A, Generator With Load Bank.
(3) AN/MEP-15, Generator.
(4) VM-1503, Mobilizer.
(5) 9503, Mobilizer.
(6) M1022, Mobilizer.
(7) M998, HMMWV.
(8) TSM-170, Maintenance Van.
(9) AN/ARC-210, UHF/VHF Radio
(10) AN/GRC-211, VHF Radio.
(11) AN/URC-94(V)2, VHF-FM/HF-AM SSB Radio.
(12) AN/VRC-82, VHF-FM Radio.
(13) AN/TPN-30, (MRAALS).
(14) AN/TPS-73, Air Traffic Control Subsystem (ATCS).
(15) AN/TPN-22, Automatic Landing Subsystem (ALS).
(16) AN/TSQ-131, Control and Communication Subsystem (CCS).
(17) AN/TRN-44, TACAN.
(18) AN/TPN-46, DAME.
(19) AN/TSQ-216, Remote Landing Site Tower (RLST).
(20) AN/TSQ-120A/B, Control Tower.

KFAM-702

Goal. Establish Tactical Landing Zone (TLZ) procedures.

Requirement. Describe the correct procedures for establishing a TLZ.

Reference. AFI 13-217, NAVAIR 01-75GAA-1T, MAWTS-1 ASP, and MMT SOP.

KFAM-703

Goal. Obtain, record and relay a close air support brief.

Requirement. With an Air Support Request, receive and relay a nine-line brief to appropriate agencies.

Prerequisite. Lectures A-04, B-09, B-16.

KFAM-704

Goal. Understand organic communications equipment.

Requirement. Explain the characteristics of each piece of equipment and the purposes, responsibilities and components of COMSEC and the principles of transmission, physical and cryptographic security (as applicable) of the following:

(1) ARC-210
(2) AN/GRC-211.
(3) AN/URC-94 (V).
(4) AN/VRC-82.
(5) KG-84C.
(6) KY-58,99.
(7) KIR-1C.
(8) KY-75.
(9) KYK-13.
(10) KOI-18.
(11) ARC-210.
(12) CYZ-10.
(13) AN/PRC-150 HF.
(14) AN/PRC-119 FM.
(15) AN/PRC-104 HF.
(16) AN/PRC-113 UHF/VHF (AM).
(17) AN/PRC-117F.
(18) AN/PRC-138.

Prerequisite. Lecture A-19.

KFAM-705

Goal. Understand communications plans and orders.

Requirement. With an Automated Communications Electronic Operating Instruction (ACEOI), MCI 25.4, and other references as required, explain the purpose and use of a communications plan, ACEOI (with specific emphasis on ATC items), and Annex K of an operations order/plan.

KFAM-706

Goal. Understand communications flow within the MACCS.

Requirement. Describe the communications flow within the MACCS to include agency connectivity using the following nets:

(1) Track Supervision Net (TSN).
(2) Tactical Coordination Net (TCN).
(3) Combat Information/Detection Net (CI/D).
(4) Tactical Air Command Net (TAC CMD).
(5) Tactical Air Traffic Control Net (TATC).
(6) Direct Air Support Net (DAS).
(7) Command Coordination Net (COMM COORD).

Prerequisite. Lectures B-15 and B-22.

KFAM-707

Goal. Understand Electronic Warfare (EW) and its effects on MATCD equipment.

Requirement. Explain the following EW subjects:

(1) Electronic Attack Brevity Codes (EA).
(2) Electronic Protection (EP).
(3) Radiation Control (RADCON).
(4) Emission Control (EMCON) as it applies to ATC.
(5) The effects of chaff on ATC radars.
(6) Definition of the types of active EP.
(7) Definition of different types of EA techniques.
(8) Meaconing, Intrusion, Jamming and Interference (MIJI) reporting as it applies to the following ATC equipment:
    (a) AN/TSQ-120.
    (b) AN/TRN-44.
    (c) AN/TPN-30.
    (d) AN/TSQ-131.
    (e) AN/TPS-73.
    (f) AN/TPN-22.

Prerequisite. Lecture B-14.

KFAM-708

Goal. Understand the Early Warning Control Site (EWC) and Tactical Air Operations Center (TAOC).

Requirement. Describe the Early Warning Control site (EWC) and TAOC to include:

(1) Radar types and capabilities.
(2) TAOM capabilities.
(3) TDL capabilities.
(4) Communications assets.

Prerequisite. Lecture B-08.

KFAM-709

Goal. Understand role of the Short Range Air Defense (SHORAD) detachment and its integration into the MACCS (REIN).

Requirement. Explain the following aspects of the Low Altitude Air Defense (LAAD) detachment:

(1) Tactical role within the MACCS.
(2) Structure - Firing battery, Remote Engagement Site (RES), Secondary Acquisition Sector (SAS).
(3) Radar types - Continuous Wave Acquisition Radar (CWAR), Sentinel, Tactical Defense Alert Radar (TDAR).
(4) Datalink connectivity (ATDL-1).

Prerequisite. Lecture B-11.

KFAM-710

Goal. Understand Forward Operating Bases (FOBs) and how the MATCD supports them.

Requirement. Describe each FOB and how the MATCD is employed in support of:

(1) Main Air Base.
(2) Air Facility.
(3) Rapid Ground Refueling (RGR) procedures.
(4) Air Site - Tactical Landing Zone (TLZ), Helicopter Landing Zones (HLZ).
(5) Air Point - Forward Arming and Refueling Point, Rapid Ground Refueling (RGR), Lager Point.

KFAM-711

Goal. Understand the development process of the Air Tasking Order (ATO)/Air Control Order (ACO).

Requirement. Describe the elements and process used to develop an ATO and ACO using the ATO Construction Directive.

KFAM-712

Goal. Understand and be proficient to execute the fundamental principles of rear area security planning.

Requirement. Apply the concepts and terminology common to the conduct of rear area security operations. Describe the interrelationships between:

(1) Joint Rear Area Coordination (JRAC).
(2) Combat Service Support Operations Center (CSSOC).
(3) Rear Area Security Coordinator (RASC).
(4) Rear Area Operations Center (RAOC).
(5) Tactical Security Officer (TSO).
(6) Assistant TSO (ATSO).

(7) Patrol Leader (PL).
(8) Roving Patrol/Reaction Team.
(9) Sentry Posts (SPs).
(10) Observation Posts (OPs).
(11) Listening Posts (LPs).

KFAM-713

Goal. Understand the site selection process for a MATCD.

Requirement. With appropriate maps and/or aerial photographs, references, and mission statement, demonstrate the site selection process for a MATCD to include:

(1) Select an ATC Detachment site considering:
Mission.
Reconnaissance of selected sites.
Tower placement.
PAR placement.
ASR placement.
CCS placement.
Radar coverage.
Camouflage.
Site security.
Communications.
Support equipment.
(2) Account for the following ATC equipment characteristics:
Sighting limits of the radar set.
Optimum runway/sector coverage.
Obstructions to radar view.
Terrain characteristics.
Typical site configurations.
Power requirements.
Installation requirements.
Wind survival tie down procedures.

KFAM-714

Goal. Develop and staff a Letter of Agreement (LOA)/Letter of Instruction (LOI).

Requirement. With use of reference and provided scenario information, learn how to prepare an LOA and an LOI to include:

(1) Purpose.
(2) Content.
(3) Controlling agencies involved.
(4) Distribution.
(5) Applicability.

KFAM-715

Goal. Staff a waiver request to required FAA regulations through chain of command/CNO.

Requirement. In a classroom setting, with reference and scenario information provided, learn how to prepare a waiver to include.

(1) Purpose.
(2) Content.
(3) Justification.
(4) Controlling agencies involved.
(5) Distribution.
(6) Applicability.
(7) Alternate and safe procedures.

KFAM-716

Goal. Conduct an ATC tactical crew brief.

Requirement. During an operation or a training exercise, properly conduct an ATC tactical crew brief to include:

(1) Enemy and friendly situation.
(2) Air defense warning condition.
(3) Air defense alert state.
(4) Air defense weapons release condition.
(5) Continuing missions.
(6) Scheduled events.
(7) Published air tasking order (ATO).
(8) Assigned frequencies/call signs.
(9) Weather.
(10) Equipment status.
(11) Crew requirements.
(12) Emergency procedures.

Prerequisite. Lectures A-12, A-13, B-1 through B-13.

KFAM 717

Goal. AN/TSQ-131 Command and Communication Subsystem.

Requirement: Demonstrate the knowledge to properly operate the MMD in the following modes:

(1) DC.
(2) FC
(3) ADC Instructor.
(4) FC Instructor.
(5) ADC Trainee.
(6) FC Trainee.
(7) ADC Maint.
(8) Maint.

Performance Standards. Pass a performance exam with a minimum score of 80%.

KFAM 718

Goal. Operator Control Unit (OCU).

Requirement: Demonstrate knowledge to properly operate the OCU.

(1) Radios.

(2) Telephone/Landline.
(3) Interphones.

Performance Standards. Pass a performance exam with a minimum score of 80%.

KDLC-730

Goal. Understand data link theory.

Requirement. Explain data link theory to include:

(1) Identify the characteristics of each of the five existing TDLs.
(2) Identify the meaning of data link reference point (DLRP), unit system coordinate center (USCC), unit position (UPOS).
(3) Identify the difference between the data grid and the display grid.
(4) Identify the capabilities of each service's command and control agencies to conduct one or more of the five data links.
(5) Specific considerations for data link operation.
(6) Describe the use of filters with TDL-B.
(7) Identify voice nets to be activated for joint service operations
(8) List major considerations for selecting TDL systems.
(9) List major considerations in the following MACCS interfaces:
TDL-A.
TDL-B.
ATDL-1.
TDL-C.
TDL-J.

Reference. MAWTS-1 Lessons: "MACCS Data Link Interoperability" (U), MAWTS-1 "Data Link Theory."

KDLC-731

Goal. Understand MATCALS Tactical Digital Links (TDL)-B and -C.

Requirement. Describe the use and capability of MATCALS TDL-B and TDL-C to include:

(1) Establishing and exiting TDL-B circuits.
(2) Emergency circuit exit TDL-B.
(3) Use of Filters with TDL-B.
(4) Mode I, ACLS, TDL-C.
(5) Mode II, ACLS, TDL-C.

Reference. MAWTS-1 ASP.

261. NON-TACTICAL KNOWLEDGE TRAINING

1. General

a. Purpose. The MATC MOS is knowledge intensive. The 800 level events contain knowledge required of all MATCOs to obtain not only for position qualifications but also core skill competency. There is common knowledge applicable to both the tower and radar branches of a facility. In addition, each branch has specific knowledge required for qualification.

b. Knowledge Event Abbreviations

(1) Common Knowledge (KFAM).
(2) Tower Knowledge (KTWR).
(3) Tower Flight Data Knowledge (KTFD).
(4) Tower Ground Control Knowledge (KTGC).
(5) Tower Local Control Knowledge (KTLC).
(6) Radar Knowledge (KRDR).
(7) Radar Final Data Knowledge (KRFD).
(8) Radar Final Control Knowledge (KRFC).
(9) Approach Control Knowledge (KAPC).

c. Administrative Note: *Should conflict exist between the training and operating procedures found in the NAVAIR 00-80T-114 and those found in other publications, the NAVAIR 00-80T-114 will govern.*

d. Prerequisite. All knowledge events in this section are a prerequisite for events throughout the syllabus. Knowledge associated with a control position will be taught and tested during student training.

e. Academic Training. All knowledge events must be tested using a written or oral exam and passed with a minimum score of 80%.

2. Common Knowledge

KFAM-800

Goal. Memorize the airfield layout.

Requirement. Draw/label from memory an airfield diagram to include:

(1) Runways.
- Numbering/marking.
- Length and width.
- Aircraft weight bearing capacity.
- Crash Fire Rescue standby positions.
- Windsocks (type/capacity).
- Optical landing system positions.

(2) Helicopter landing areas/spots.
- Name/designation.
- Restrictions.

(3) Taxiways.
- Length and width.
- Directional usage.
- Aircraft weight bearing capacity.
- Designation (name/number).
- Special use areas (hazardous cargo, hot brakes, ordnance Load/offload, arm/dearm, etc).
- Special routes (VIP, ordnance carrying, etc.).
- Restrictions.

(4) Fuel Pits.
- Number of fueling points.
- Directional usage.
- Types of fuel available.

(5) Aircraft wash racks.
    Restrictions.
    Directional usage.
(6) Tenant aircraft parking ramps.
    Squadron assigned.
    Type of aircraft.
    Tactical call sign/MODEX.
    Hangar assigned.
    Taxi routes.
(7) Transient parking ramps.
    Restrictions.
    VIP spots.
    Taxi routes.
(8) Crash Fire Rescue.
    Location.
    Types of vehicles.
(9) Hangars.
    Building number.
    Unit assigned.
    Special usage (if applicable).
(10) Vehicular traffic.
    Restrictions.
    Routes.
    Clearances.
    Control devices (road lights, traffic arms, etc.).
(11) Visual aids.
    Runway lights.
    Approach lights.
    Taxiway lights.
    Airfield beacon.
    Obstruction lights.
    Optical landing systems.
(12) Navigation aids.
    Type and channel/frequency.
    Location and monitoring capability.
    Compass rose.
(13) Obstructions on the airfield: Type, height, and location.
(14) ATC radar types and location.

Reference. Local publications and Flight Information Publications.

KFAM-801

Goal. General ATC knowledge.

Reference

(1) FAA 7110.65

Ch1	Sec1	(Introduction) General.
Ch1	Sec2	Terms of Reference.
Ch2	Sec1	(General Control) General.
Ch2	Sec2	Forwarding Amended and UTM Data.
Ch2	Sec4	Radio and Interphone Communication.
Ch2	Sec8	Runway Visibility Reporting - Terminal.
Ch2	Sec10	Team Position Responsibilities.
Ch3	Sec1	Establishing Two Way Communications.

Ch9 Sec1 (Special Flights). General.
Ch10 Sec1 (Emergencies).General.

(2) Glossary Terms
Additional Service.
Advisory Frequencies.
Aerial Refueling.
Affirmative.
Roger.
Wilco.
Aircraft Classes.
AirMet.
Approach Gate.
Final Approach Fix.
Final Approach Course.
Decision Height.
Overhead Maneuver.
Pilot's Discretion.
Pilot Weather Report.
Preferential Routes.
Procedure Turn.
Segments of an Instrument Approach Procedure.
Short Range Clearances.
Simulated Flameout.
Missed Approach
Tower EnRoute Control Service.
(3) Local publications.

KFAM-802

Goal. Local area/airfield specific knowledge.

Reference

(1) FAA 7110.65
Ch 3 Sec3 Arresting System Operation.
Ch 3 Sec5 Selection.
(2) Local publications
Airfield Weather Minimums.
Type Aircraft Assigned Each Local Squadron.
Modex/Tactical Call of Each Local Squadron.
Traffic Patterns and NAVAID Procedures.
Alternate/Divert Airfield.
Adjacent Airfields.
Airport Surface Area Description.
Facility Frequencies.

KFAM-803

Goal. Emergency/Safety knowledge.

Reference

(1) FAA 7110.65
Ch2 Sec1 In-flight Equipment Malfunctions.
Ch2 Sec1 Minimum Fuel.
Ch4 Sec7 Below Minima Report by Pilot.

	Ch5 Sec2	Emergency Code Assignment.
	Ch10 Sec1	(Emergencies) General.
	Ch10 Sec2	Emergency Assistance.
	Ch10 Sec3	Overdue Aircraft.
	Ch10 Sec4	Control Actions.
(2) NAVAIR 00-80T-114		
	Ch3 Sec 4	Facility Operation.
	Ch3 Sec 6	Security of Facilities.
	Ch3 Sec 7	Aircraft Accidents and Incidents.
	Ch3 Sec 8	Air Traffic Control Hazards (Operational Errors/Deviations).

(3) Local publications.

KFAM-804

Goal. Weather knowledge.

Reference

(1) FAA 7110.65		
	Ch2 Sec6	Weather Information.
	Ch2 Sec7	Altimeter Settings.
	Ch2 Sec8	Runway Vsby Reporting-Terminal.
	Ch2 Sec9	ATIS Procedures.
	Ch3 Sec1	Low Level Wind shear Advisories.
(2) FAA 7210.3		
	Ch12 Sec3	Instrument Operations Area.
	Ch14	Aviation Meteorological Services.

(3) Local publications.

KFAM-805

Goal. Terminal Instrument Procedures (TERPS).

Requirement. Explain the purpose of TERPS to include:

(1) Two types of terminal instrument procedures.
(2) Four segments in procedures construction.
(3) ATC NAVAIDS equipment.
(4) Two areas of each segment.
(5) Required obstacle clearance for each approach segment.

KFAM-806

Goal. Facility/Personnel/Operations/Training Management knowledge applied in OJT environment.

Reference

(1) FAA 7220.1	Operational Position Standards.
(2) FAA 7110.65	Air Traffic Control.
(3) FAA 7210.3	Facility Operations.
(4) FAA 7340.1	Contractions Directive.
(5) CFR 91	General Operating.
(6) AIM	Aeronautical Information Directive
(7) AOM	Airfield Operations.
(8) ATC FacMan	Facility Operations.
(9) IFR Supplement	

(10) VFR Supplement
(11) NOTAMS — General notices.
(12) AP1B — North American Military Training Route.
(13) Local Sectional
(14) SECNAV 5216.5C — Memorandum Of Understanding.
(15) NAVAIR 00-80T-114
- Ch2 — General.
- Ch3 — Facility Management.
- Ch4 — Naval Certification Procedures.
- Ch6 — Control Tower.
- Ch8 — Training, Standardization, and Air Traffic Controller Performance Evaluations.
- Appendix C — Sample format for FAA/USN Letter of Agreement Concerning Control of Air Traffic.
- Appendix D — Memorandum of Agreement.

(16) RATCF DAIR Operator's Directive.
(17) STARS Training Directive.
(18) Low Altitude United States.
(19) High Altitude United States.
(20) Local publications.

3. Tower Knowledge

KTWR-801

Goal. Tower equipment.

Reference

(1) FAA 7110.65
- Ch2 Sec1 — NAVAID Malfunction.
- Ch2 Sec9 — ATIS.
- Ch3 Sec1 — Tower Radar Displays.
- Ch3 Sec2 — Light Gun.
- Ch3 Sec2 — Receiver Only Acknowledgment.
- Ch3 Sec4 — Airport Lighting (all applicable airport lighting).
- Ch3 Sec6 — ASDE (if applicable).

(2) FAA 7210.3
- Ch3 Sec1 — (Facility Equipment) General.

(3) NAVAIR 00-80T-114
- Ch2 Sec6 — Airport Facilities.
- Ch6 Sec 2 — (Control Tower) Equipment.

(4) Tower Visibility Chart.
(5) MCO 3501.9 — MACCS MCCRES.
(6) Local publications.

KTWR-802

Goal. Strip marking.

Reference

(1) FAA 7110.65
- Ch2 Sec 2 — Flight Plans and Control Information.

Ch2	Sec 3	Flight Progress Strips.

(2) Local publications.

KTWR-803

Goal. Airfield Lighting.

Reference

(1) FAA 7110.65

Ch3	Sec4	Emergency Lighting.
Ch3	Sec4	Runway End Identifier Lights.
Ch3	Sec4	VASI Lights.
Ch3	Sec4	Approach Lights.
Ch3	Sec4	ALS Intensity.
Ch3	Sec4	Sequenced Flashing Lights.
Ch3	Sec4	MALS.
Ch3	Sec4	ALSF-2.
Ch3	Sec4	Runway Edge Lights.
Ch3	Sec4	High Intensity Runway, Centerline Light.
Ch3	Sec4	HIRL Associated With MALSR.
Ch3	Sec4	HIRL Changes.
Ch3	Sec4	Medium Intensity Runway Lights.
Ch3	Sec4	Simultaneous Approach/Runway Edge.
Ch3	Sec4	High Speed Turnoff Light.
Ch3	Sec4	Taxiway Lights.
Ch3	Sec4	Obstruction Lights.
Ch3	Sec4	Rotating Beacon.
Ch3	Sec4	Precision Approach Path Indicators (PAPI).

(2) FAA 7210.3

Ch10 Sec6	Airport Lighting.

(3) NAVAIR 51-50AAA-2 (All Airfield markings).

(4) Local publications.

KTFD-820

Goal. Phraseology/Communications.

Reference

(1) FAA 7110.65

Ch2	Sec4	Radio and Interphone Communications.

(2) Local publications.

KTFD-821

Goal. Clearance/coordination.

Reference

(1) FAA 7110.65

Ch2	Sec5	Route and NAVAID Description.
Ch4	Sec2	Clearances.
Ch4	Sec3	Departure Procedures.
Ch4	Sec4	Route Use.
Ch4	Sec4	Route Structure Transitions.

Ch4	Sec4	Class G Airspace.
Ch4	Sec5	Flight Direction.
Ch4	Sec5	Exceptions.
Ch4	Sec5	Lowest Usable Flight Level.

(2) Local publications.

KTFD-822

Goal. Letters of Agreements/Facility Directives/Facility Memos/Publications.

Reference

(1)	FAA 7220.1	Operational Position Standards.
(2)	FAA 7110.65	Air Traffic Control.
(3)	FAA 7210.3	Facility Operations.
(4)	FAA 7340.1	Contractions Directive.
(5)	CFR 91	General Operating.
(6)	AIM	Airman's Information Directive.
(7)	AOM	Airfield Operations.
(8)	ATC FacMan	Facility Operations.
(9)	IFR Supplement	
(10)	VFR Supplement	
(11)	NOTAMS	General Notices.
(12)	AP1B	Military Training Route.
(13)	Local Sectional	
(14)	SECNAVINST 5216.5C	Memorandum of Understanding.
(15)	NAVAIR 00-80T-114	
	Ch3	Facility Management.
	Appendix C	Sample Format for FAA/USN Letter of Agreement Concerning Control of Air Traffic.
	Appendix D	Memorandum of Agreement.

(16) Low Altitude United States.
(17) High Altitude United States.
(18) Letters of Agreement.

KTGC-823

Goal. Phraseology/communications.

Reference

(1) FAA 7110.65

Ch2	Sec4	Radio and Interphone Communications.
Ch3	Sec2	Light Signals.

(2) Local publications.

KTGC-824

Goal. Clearance/coordination.

Reference

(1) FAA 7110.65

Ch2	Sec5	Route and NAVAID Description.
Ch4	Sec2	Clearance Items.

Ch4	Sec2	Clearance Prefix.
Ch4	Sec2	Delivery Instructions.
Ch4	Sec2	Clearance Relay.
Ch4	Sec2	Route or Altitude Amendments.
Ch4	Sec2	Through Clearances.
Ch4	Sec2	ALTRV Clearance.
Ch4	Sec2	IFR-VFR and VFR-IFR Flights.
Ch4	Sec2	Clearance Items.
Ch4	Sec3	Departure Procedures.
Ch4	Sec4	Route Use.
Ch4	Sec4	Route Structure Transitions.
Ch4	Sec4	Class G Airspace.
Ch4	Sec5	Flight Direction.
Ch4	Sec5	Exceptions.
Ch4	Sec5	Lowest Usable Flight Level.

(2) Local publications.

KTGC-825

Goal. Separation.

Reference

(1) FAA 7110.65

Ch3	Sec1	Provide Service.
Ch3	Sec1	Preventive Control.
Ch3	Sec1	Use of Active Runways.
Ch3	Sec1	Coordination Local and Ground.
Ch3	Sec1	Vehicles/Equipment/Personnel on Runway.
Ch3	Sec1	Traffic Information.
Ch3	Sec1	Position Determination.
Ch3	Sec1	Low Level Wind shear Advisories.
Ch3	Sec1	Observed Abnormalities.
Ch3	Sec1	Visually Scanning Runways.
Ch3	Sec3	Landing Area Condition.
Ch3	Sec3	Closed/Unsafe Runway Information.
Ch3	Sec3	Timely Information.
Ch3	Sec3	Braking Action.
Ch3	Sec3	Braking Action Advisories.
Ch3	Sec3	Arresting System Operation.
Ch3	Sec7	Ground Traffic Movement.
Ch3	Sec7	Taxi/Ground Movement Operations.
Ch3	Sec7	Ground Operations.
Ch3	Sec7	Runway Proximity.
Ch3	Sec7	Precision Approach Critical Area.
Ch3	Sec11	Taxi/Ground Movement Operation.

(2) Local publications.

KTGC-826

Goal. Letters of Agreement and Facility Directives/ Memos/ Publications.

Reference

(1) FAA 7220.1	Operational Position Standards.
(2) FAA 7110.65	Air Traffic Control.

(3) FAA 7210.3	Facility Operations.
(4) FAA 7340.1	Contractions Directive.
(5) CFR 91	General Operating.
(6) AIM	Airman's Information Directive.
(7) AOM	Airfield Operations.
(8) ATC FacMan	Facility Operations.
(9) IFR Supplement.	
(10) VFR Supplement.	
(11) NOTAMS	General Notices.
(12) AP1B	North American Military Training Routes.
(13) Local Sectional.	
(14) SECNAVINST 5216.5C	Memorandum of Understanding.
(15) NAVAIR 00-80T-114:	
Ch 3	Facility Management.
Appendix C	Sample Format for FAA/USN Letter of Agreement Concerning Control of Air Traffic.
Appendix D	Memorandum of Agreement.
(16) Low Altitude United States.	
(17) High Altitude United States.	

KTWR-826

Goal. Tower equipment as applied on the Tower Local Control position.

Reference

(1) FAA 7110.65	
Ch2 Sec1	NAVAID Malfunction.
Ch2 Sec9	ATIS.
Ch3 Sec1	Tower Radar Displays.
Ch3 Sec2	Light Gun.
Ch3 Sec2	Receiver Only Acknowledgment.
Ch3 Sec6	ASDE (If Applicable).
(2) FAA 7210.3	
Ch3 Sec1	(Facility Equipment) General.
(3) NAVAIR 00-80T-114	
Ch2 Sec6	Airport Facilities.
Ch6 Sec2	(Control Tower) Equipment.
Ch6 Sec3	Tower Visibility Chart.
(4) Local publications.	

KTWR-827

Goal. General ATC knowledge in a Tower Local Control environment.

Reference

(1) FAA 7110.65	
Ch1 Sec1	(Introduction) General.
Ch1 Sec2	Terms of Reference.
Ch2 Sec1	(General Control) General.
Ch2 Sec2	Forwarding Amended And UTM Data.
Ch2 Sec4	Radio and Interphone Communication.
Ch2 Sec8	Runway Visibility Reporting - Terminal.

Ch2 Sec10 Team Position Responsibilities.
Ch3 Sec1 Establishing Two-way Communications.
Ch9 Sec1 (Special Flights) General.
Ch10 Sec1 (Emergencies) General.

(2) Glossary Terms.
Additional Service.
Advisory Frequencies.
Aerial Refueling.
Affirmative.
Roger.
Wilco.
AirMet.
Approach Gate.
Final Approach Fix.
Final Approach Course.
Decision Height.
Overhead Maneuver.
Pilots Discretion.
Pilot Weather Report.
Preferential Routes.
Procedure Turn.
Segment of an Instrument Approach Procedure.
Short Range Clearances.
Simulated Flameout.
Missed Approach.
Tower Enroute Control Service.

(3) Local publications.

KTWR-828

Goal. Local area/airfield specific knowledge applied in a Tower Local Control environment.

Reference

(1) FAA 7110.65
Ch3 Sec3 Arresting System Operation.
Ch3 Sec5 Selection.

(2) Facility Directive
Airfield Weather Minimums.
Type Aircraft Assigned Each Local Squadron.
Modex/Tactical Call of Each Local Squadron.
Traffic Patterns and NAVAID Procedures.
Alternate/Divert Airfield.
Adjacent Airfields.
Airport Surface Area Description (FAA 7400.8).
Facility Frequencies.

KTWR-829

Goal. Strip marking knowledge applied in a Tower Local Control environment.

Reference

(1) FAA 7110.65
Ch2 Sec2 Flight Plans and Control Information.

	Ch2 Sec3	Flight Progress Strips.

(2) Local publications.

KTWR-830

Goal. Emergency/safety knowledge applied in a Tower Local Control environment.

Reference

(1) FAA 7110.65

Ch2 Sec1	In-flight Equipment Malfunctions.
Ch2 Sec1	Minimum Fuel.
Ch4 Sec7	Below Minima Report by Pilot.
Ch5 Sec2	Emergency Code Assignment.
Ch10 Sec1	General.
Ch10 Sec2	Emergency Assistance.
Ch10 Sec3	Overdue Aircraft.
Ch10 Sec4	Control Actions.

(2) NAVAIR 00-80T-114

Ch3 Sec4	Facility Operation.
Ch3 Sec6	Security of Facilities.
Ch3 Sec7	Aircraft Accidents and Incidents.
Ch3 Sec8	Air Traffic Control Hazards (Operational Errors/Deviations).

KTWR-831

Goal. Weather knowledge applied in a Tower Local Control environment.

Reference

(1) FAA 7110.65

Ch2 Sec6	Weather Information.
Ch2 Sec7	Altimeter Settings.
Ch2 Sec8	Runway Vsby Reporting - Terminal.
Ch2 Sec9	ATIS Procedures.
Ch3 Sec1	Low Level Wind Shear/Microburst Advisories.

(2) FAA 7210.3

Ch12 Sec3	Instrument Operations Data.
Ch14	Aviation Meteorological Services and Equipment.

(3) Local publications.

KTWR-832

Goal. Airfield lighting knowledge applied in a Tower Local Control environment.

Reference

(1) FAA 7110.65

Ch3 Sec4	Emergency Lighting.
Ch3 Sec4	Runway End Identifier Lights.
Ch3 Sec4	VASI Lights.

Ch3	Sec4	Approach Lights.
Ch3	Sec4	ALS Intensity.
Ch3	Sec4	Sequenced Flashing Lights.
Ch3	Sec4	MALS.
Ch3	Sec4	ALSF-2.
Ch3	Sec4	Runway Edge Lights.
Ch3	Sec4	High Intensity Runway, Centerline Lights.
Ch3	Sec4	HIRL Associated With MALSR.
Ch3	Sec4	HIRL Changes.
Ch3	Sec4	Medium Intensity Runway Lights.
Ch3	Sec4	Simultaneous Approach/Runway Edge.
Ch3	Sec4	High Speed Turnoff Light.
Ch3	Sec4	Taxiway Lights.
Ch3	Sec4	Obstruction Lights.
Ch3	Sec4	Rotating Beacon.
Ch3	Sec4	Precision Approach Path Indicators (PAPI)

(2) FAA 7210.3

Ch12	Sec6	Airport Lighting.

(3) NAVAIR 51-50AAA-2 (All Airfield markings).

(4) Local publications.

KTLC-833

Goal. Communications in a Tower Local Control environment.

Reference

(1) FAA 7110.65

Ch2	Sec4	Radio and Interphone Communications.
Ch3	Sec2	Light Signals.

(2) Local publications.

KTLC-834

Goal. Clearance/coordination applied in a Tower Local Control environment.

Reference

(1) FAA 7110.65

Ch2	Sec5	Route and Navaid Description.
Ch3	Sec9	Take Off Clearances.
Ch3	Sec9	Cancellation of Take Off Clearance.
Ch3	Sec11	Helicopter Takeoff Clearance.
Ch4	Sec2	Clearances.
Ch4	Sec3	Depart Procedures.
Ch4	Sec4	Route Use.
Ch4	Sec4	Route Structure Transitions.
Ch4	Sec4	Class "G" Airspace.
Ch4	Sec5	Flight Direction.
Ch4	Sec5	Exceptions.
Ch4	Sec5	Lowest Usable Flight Level.

(2) Local publications.

KTLC-835

Goal. Spacing/sequencing/separation applied in a Tower Local

Control environment.

Reference

(1) FAA 7110.65

Ch3	Sec8	Spacing and Sequencing.
Ch3	Sec9	Departure Procedures/Separation.
Ch3	Sec10	Arrival Procedures/Separation.
Ch3	Sec11	Helicopter Departure Separation.
Ch3	Sec11	Helicopter Arrival Separation.
Ch3	Sec11	Simultaneous Landing/Takeoffs.
Ch3	Sec11	Helicopter Landing Clearance.
Ch3	Sec12	Sea Lane Operations.
Ch5	Sec5	Minima.
Ch5	Sec8	Successive Simultaneous Departures.
Ch5	Sec8	Departure and Arrival.
Ch5	Sec8	Departures/Arrivals on Parallel or Non-Intersecting Diverging Runways.
Ch7	Sec2	Visual Separation.
Ch7	Sec5	SVFR.

(2) Local publications.

KTLC-836

Goal. Letters of Agreement and Facility Directives/Memos/ Publications applied in a Tower Local Control environment.

Reference

(1)	FAA 7220.1	Operational Position Standards.
(2)	FAA 7110.65	Air Traffic Control.
(3)	FAA 7210.3	Facility Operations.
(4)	FAA 7340.1	Contractions Directive.
(5)	CFR 91	General Operating.
(6)	AIM	Airman's Information Directive.
(7)	AOM	Airfield Operations.
(8)	ATC FacMan	Facility Operations.
(9)	IFR Supplement.	
(10)	VFR Supplement.	
(11)	NOTAMS	General Notices.
(12)	AP1B	Military Training Route.
(13)	Local Sectional.	
(14)	SECNAVINST 5216.5C	Memorandum of Understanding.
(15)	NAVAIR 00-80T-114	
	Ch 3	Facility Management.
	Appendix C	Sample Format for FAA/USN Letter of Agreement Concerning Control of Air Traffic.
	Appendix D	Memorandum of Agreement.
(16)	RATCF DAIR Operator's Directive.	
(17)	STARS Training Directive.	
(18)	Low Altitude United States.	
(19)	High Altitude United States.	
(20)	Local publications.	

4. Radar Section

KRDR-800

Goal. Radar equipment.

Reference

(1) FAA 7110.65

Ch5	Sec1	Presentation and equip/performance.
Ch5	Sec1	Alignment check.
Ch5	Sec1	Radar use.
Ch5	Sec1	Beacon range accuracy.
Ch5	Sec1	Electronic cursor.
Ch5	Sec2	Standby/low sensitivity operation.
Ch5	Sec2	Inoperative interrogator.
Ch5	Sec2	In-flight deviations from transponder.
Ch5	Sec15	Automated Radar Terminal Systems (ARTS) - Terminal.
Ch5	Sec16	TPX-42 - Terminal.

(2) FAA 7210.3

Ch3	Sec1	(Facility Equipment) General.
Ch3	Sec7	Radar Use.
Ch3	Sec8	Video Maps.

(3) NAVAIR 00-80T-114

Ch2	Sec6	Airport Facilities.
Ch7	Sec2	(Radar Operations) Equipment.
Appendix J		OJT Performance Evaluation
Appendix O		Precision Approach Landing System Approach Criteria.

(4) Local publications.

KRDR-801

Goal. Strip marking.

Reference

(1) FAA 7110.65

Ch2	Sec2	Flight Plans and Control Information.
Ch2	Sec3	Flight Progress Strips.

(2) Local publications.

KRDR-802

Goal. Radar equipment knowledge applied in a Radar Approach Control environment.

Reference

(1) FAA 7110.65

Ch5	Sec1	Presentation/Equipment Check.
Ch5	Sec1	Alignment Check.
Ch5	Sec1	Radar Use.
Ch5	Sec1	Beacon Range Accuracy.
Ch5	Sec1	Electronic Cursor.
Ch5	Sec2	Standby/Low Sensitivity Operation.
Ch5	Sec2	Inoperative/Malfunctioning Interrogator.
Ch5	Sec2	In-Flight Deviations from Transponder.

Ch5	Sec2	Altitude Filters.
Ch5	Sec15	ARTS - Terminal.
Ch5	Sec16	TPX-42 - Terminal.

(2) FAA 7210.3

Ch3	Sec1	General.
Ch3	Sec7	Radar Use.
Ch3	Sec8	Video Maps.

(3) NAVAIR 00-80T-114

Ch2	Sec6	Airport Facilities.
Ch7	Sec2	(Radar Operations) Equipment.
Appendix J		OJT Performance Evaluation.
Appendix O		Precision Approach Landing System Approach Criteria.

KRDR-803

Goal. Local area/airfield specific knowledge applied in a Radar Approach Control environment.

Reference

(1) FAA 7110.65

Ch3	Sec3	Arresting System Operation.
Ch3	Sec5	Selection.

(2) Facility Directive

Airfield Weather Minimums.
Type aircraft assigned each local Squadron.
Modex/Tactical call of each local squadron.
Traffic patterns and NAVAID procedures.
Alternate/Divert airfield.
Adjacent airfields.
Airport surface area description (FAA 7400.8).
Facility Frequencies.

KRDR-804

Goal. General ATC knowledge applied in a Radar Approach Control environment.

Reference

(1) FAA 7110.65

Ch1	Sec1	(Introduction) General.
Ch1	Sec2	Terms of Reference.
Ch2	Sec1	(General Control) General.
Ch2	Sec2	Forwarding Amended And UTM Data.
Ch2	Sec4	Radio and Interphone Communication.
Ch2	Sec10	Team Position Responsibilities.
Ch3	Sec1	Establishing Two-Way Communications.
Ch9	Sec1	(Special Flights) General.
Ch10	Sec1	(Emergencies) General.

(2) Glossary Terms

Additional Service.
Advisory Frequencies.
Aerial Refueling.
Affirmative.
Roger.

Wilco.
Aircraft Classes.
AirMet.
Approach Gate.
Final Approach Fix.
Final Approach Course.
Decision Height.
Overhead Maneuver.
Pilots Discretion.
Pilot Weather Report.
Preferential Routes.
Procedure Turn.
Segment of an Instrument Approach Procedure.
Short Range Clearances.
Simulated Flameout.
Missed Approach.
Tower Enroute Control Service.
Local publications.

KRDR-805

Goal. Strip marking applied in a Radar Approach Control environment.

Reference

(1) FAA 7110.65

-Ch2	Sec2	Flight Plans and Control Information.
-Ch2	Sec3	Flight Progress Strips.

(2) Local publications.

KRDR-806

Goal. Emergency/Safety applied in a Radar Approach Control environment.

Reference

(1) FAA 7110.65

Ch2	Sec1	In-flight Equipment Malfunction.
Ch2	Sec1	Minimum Fuel.
Ch4	Sec7	Below minima report by pilot.
Ch5	Sec2	Emergency Code Assignment.
Ch10	Sec1	(Emergencies) General.
Ch10	Sec2	Emergency Assistance.
Ch10	Sec3	Overdue Aircraft.
Ch10	Sec4	Control Actions.

(2) NAVAIR 00-80T-114

Ch3	Sec4	Facility Operation.
Ch3	Sec6	Security of Facilities.
Ch3	Sec7	Aircraft Accidents and Incidents.
Ch3	Sec8	Air Traffic Control Hazards (Operational Errors/Deviations).

(3) Local publications.

KRDR-807

Goal. Weather knowledge applied in an Approach Control environment.

Reference

(1) FAA 7110.65

Ch2	Sec6	Weather Information.
Ch2	Sec7	Altimeter Settings.
Ch2	Sec8	Runway Vsby Reporting - Terminal.
Ch2	Sec9	ATIS Procedures.
Ch3	Sec1	Low Level Wind shear Advisories.

(2) FAA 7210.3

Ch12	Sec3	Instrument Operations Data.
Ch14		Aviation Meteorological Services and Equipment.

(3) Local publications.

KRFD-830

Goal. Phraseology/Communications.

Reference

(1) FAA 7110.65

Ch4	Sec7	Single frequency approaches (SFA).
Ch4	Sec8	Communications release.
Ch4	Sec2	Clearance relay.
Ch5	Sec4	Terms (Transfer of Radar ID).
Ch5	Sec6	Methods (Vectoring).
Ch5	Sec7	Application (Speed Adjustment).

(2) Local publications.

KRFD-831

Goal. Clearance/Coordination.

Reference

(1) FAA 7110.65

Ch4	Sec2	ALTRV Clearances.
Ch4	Sec2	Clearance Items.
Ch4	Sec3	Departure Terminology.
Ch4	Sec3	Departure Restrictions, Clearance Void Times, Hold for Release, and Release Times.
Ch4	Sec3	VFR Release of IFR Departure.
Ch4	Sec5	Flight Direction.
Ch4	Sec5	Exceptions.
Ch4	Sec5	Lowest Usable Flight Level.
Ch4	Sec5	Altitude Information.
Ch4	Sec5	Anticipated Altitude Changes.
Ch4	Sec6	Clearance Beyond Fix.
Ch4	Sec6	Unmonitored NAVAIDS.
Ch4	Sec6	ILS Protection/Critical Areas.
Ch4	Sec7	Clearance Information.
Ch4	Sec8	Approach Clearance.
Ch4	Sec8	Clearance Limit.

(2) Local publications.

KRFD-832

Goal. Letters of Agreement and Facility Directives/Memos/ Publications.

Reference

(1)	FAA 7220.1	Operational Position Standards.
(2)	FAA 7110.65	Air Traffic Control.
(3)	FAA 7210.3	Facility Operations.
(4)	FAA 7340.1	Contractions Directive.
(5)	CFR 91	General Operating.
(6)	AIM	Airman's Information Directive.
(7)	AOM	Airfield Operations.
(8)	ATC FacMan	Facility Operations.
(9)	IFR Supplement.	
(10)	VFR Supplement.	
(11)	NOTAMS	General Notices.
(12)	AP1B	North America Military Training Route.
(13)	Local Sectional	
(14)	SECNAVINST 5216.5C	Memorandum of Understanding.
(15)	NAVAIR 00-80T-114	
	Ch3	Facility Management.
	Appendix C	Sample Format for FAA/USN Letter of Agreement Concerning Control of Air Traffic.
	Appendix D	Memorandum of Agreement.
(16)	RATCF DAIR Operator's Directive.	
(17)	STARS Training Directive.	
(18)	Low Altitude United States.	
(19)	High Altitude United States.	
(20)	Local publications.	

KRFC-833

Goal. Phraseology/Communications.

Reference

(1)	FAA 7110.65		
	Ch2	Sec1	Wheels Down Check.
	Ch2	Sec4	Radio and Interphone.
	Ch4	Sec2	Clearance Relay.
	Ch4	Sec7	Single Frequency Approaches (SFA).
	Ch4	Sec8	Communications Release.
	Ch5	Sec4	Terms.
	Ch5	Sec6	Methods (Vectoring).
	Ch5	Sec7	Application (Radar Approaches).
	Ch5	Sec10	No-Gyro Approach.
	Ch5	Sec10	Lost Communications.
	Ch5	Sec10	Radar Contact Lost.
	Ch5	Sec10	Landing Check.
	Ch5	Sec10	Position Information.
	Ch5	Sec10	Final Controller Changeover.
	Ch5	Sec10	Communications Check.

Ch5	Sec10	Transmission Acknowledgment.
Ch5	Sec10	Missed Approach.
Ch5	Sec10	Low Approach and Touch-and-Go.
Ch5	Sec10	Tower Clearance.
Ch5	Sec10	Final Approach Abnormalities.
Ch5	Sec10	Military Single Frequency Approaches.
Ch5	Sec11	Surveillance Approaches Terminal.
Ch5	Sec12	PAR Approaches-Terminal.
Ch5	Sec13	Use of PAR for Approach Monitoring.

(2) Local publications.

KRFC-834

Goal. Clearance/coordination.

Reference

(1) FAA 7110.65

Ch3	Sec1	Low Level Wind Shear/Microburst Advisories.
Ch3	Sec10	Altitude Restricted Approach.
Ch4	Sec8	Circling Approach.
Ch4	Sec8	Missed Approach.
Ch4	Sec8	Low Approach and Touch-and-Go.

(2) Local publications.

KRFC-835

Goal. Separation knowledge.

Reference

(1) FAA 7110.65

Ch2	Sec1	Formation flights.
Ch2	Sec1	Wake turbulence.
Ch2	Sec1	Wake Turbulence Cautionary Advisories.
Ch2	Sec1	Traffic advisories.
Ch2	Sec1	Bird activity information.
Ch3	Sec1	Traffic information.
Ch4	Sec5	Vertical separation minima.
Ch5	Sec3	Beacon Identification Methods.
Ch5	Sec3	Primary Radar Identification Methods.
Ch5	Sec4	Methods (Transfer of Radar ID).
Ch5	Sec4	Traffic (Radar Separation).
Ch5	Sec5	Application.
Ch5	Sec5	Target separation.
Ch5	Sec5	Minima (Radar separation).
Ch5	Sec5	Additional separation for formation flights.
Ch5	Sec9	Approach separation responsibility.
Ch7	Sec2	Visual separation.

(2) Local publications.

KRFC-836

Goal. Letters of Agreement and Facility Directives/Memos/ Publications.

Reference

(1)	FAA 7220.1	Operational Position Standards.
(2)	FAA 7110.65	Air Traffic Control.
(3)	FAA 7210.3	Facility Operations.
(4)	FAA 7340.1	Contractions Directive.
(5)	CFR 91	General Operating.
(6)	AIM	Airman's Information Directive.
(7)	AOM	Airfield Operations.
(8)	ATC FacMan	Facility Operations.
(9)	IFR Supplement	
(10)	VFR Supplement	
(11)	NOTAMS	General Notices.
(12)	AP1B	North American Military training route.
(13)	Local Sectional	
(14)	SECNAVINST 5216.5C	Memorandum Of Understanding.
(15)	NAVAIR 00-80T-114	
	Ch3	Facility Management.
	Appendix C	Sample Format for FAA/USN Letter of Agreement Concerning Control of Air Traffic.
	Appendix D	Memorandum of Agreement.
(16)	RATCF DAIR Operator's Directive.	
(17)	STARS Training Directive.	
(18)	Low Altitude United States.	
(19)	High Altitude United States.	
(20)	Local publications.	

KAPC-840

Goal. Advanced ATC applied in a Radar Approach Control environment.

Reference

(1)	FAA 7110.65		
	Ch4	Sec1	NAVAID Use Limitation.
	Ch4	Sec5	Altitude Assignment/Verification.
	Ch4	Sec6	Holding Aircraft.
	Ch4	Sec7	Arrival Procedures.
	Ch5	Sec1	General.
	Ch5	Sec2	Beacon Systems.
	Ch5	Sec6	Vectoring.
	Ch5	Sec7	Speed Adjustments.
(2)	Glossary Terms		(All applicable terms).

KAPC-841

Goal. Advanced airfield specific knowledge applied in a Radar Approach Control environment.

Reference

(1)	FAA 7110.65		
	Ch2	Sec1	NAVAID Malfunctions.
	Ch2	Sec1	Military Procedures.

Ch2	Sec5	NAVAID Terms.
Ch2	Sec5	NAVAIDS Fixes.
Ch3	Sec1	Observed Abnormalities.
Ch3	Sec3	Landing Area condition.
Ch3	Sec3	Timely Information.
Ch3	Sec3	Braking Action.
Ch3	Sec3	Braking Action Advisories.
Ch3	Sec3	Arresting System Operation.
Ch3	Sec5	Runway Selection.
Ch4	Sec4	Route Use.
Ch4	Sec4	Route Structure Transitions.
Ch4	Sec4	Degree-Distance Route.
Ch4	Sec4	Alternative Routes.
Ch4	Sec6	Holding Instructions.
Ch4	Sec7	Switching ILS / MLS Runways.
Ch5	Sec2	Assignment Criteria.
Ch5	Sec2	Discrete Environment.
Ch5	Sec2	Non-Discrete Environment.
Ch5	Sec2	Mixed Environment.
Ch5	Sec2	Automatic Altitude Reporting.
Ch5	Sec2	Beacon Termination.
Ch5	Sec3	Position Information.
Ch5	Sec7	Application.
Ch5	Sec9	Arrival Instructions.
Ch5	Sec10	Application.
Ch5	Sec10	Approach Information.
Ch9	Sec1	(Special Flights) General.

(2) FAA 7210.3

Ch10	Sec6	Airport Lighting.

(3) NAVAIR 00-80T-114

Ch9	Sec3	Terminal Instrument Approach Procedures.
Appendix A		Memorandum of Agreement Between Department of Transportation Federal Aviation Administration, and the U.S. Army, the U.S. Navy, and the U.S. Air Force.

(4) Local publications.

KAPC-842

Goal. Non-radar knowledge applied in a Radar Approach Control environment.

Reference

(1) FAA 7110.65

Ch1	Sec2	Terms of Reference (Review).
Ch2	Sec1	General (Review).
Ch2	Sec3	Flight Progress Strips.
Ch2	Sec5	Route and NAVAID Description.
Ch4	Sec1	NAVAID Use Limitations (Review).
Ch4	Sec5	Altitude Assignment/Verification (Review).
Ch4	Sec6	Holding Aircraft (Review).
Ch4	Sec7	Arrival Procedures (Review).
Ch4	Sec8	Approach Clearance Procedures.
Ch6	Sec1	(Nonradar) General.

Ch6	Sec2	Initial Separation of Successive Departing Aircraft.
Ch6	Sec3	Initial separation of Departing and Arriving Aircraft.
Ch6	Sec4	Longitudinal Separation.
Ch6	Sec5	Lateral Separation.
Ch6	Sec6	Vertical Separation.
Ch6	Sec7	Timed Approaches.

(2) NAVAIR 00-80T-114

Ch4	Naval Certification Procedures.
Ch7	(Radar Operations) General.
Ch8	Training, Standardization, and Air Traffic Controller Performance Evaluations.
Appendix G	Air Traffic Control Specialist Mishap Statement.
Appendix I	Minimum Altitude Vectoring Chart.

KAPC-843

Goal. Coordination in a Radar Approach Control environment.

Reference

(1) FAA 7110.65

Ch2	Sec1	Reporting Essential Flight Info.
Ch2	Sec1	Coordinate Use of Airspace.
Ch2	Sec1	Control Transfer.
Ch2	Sec1	Surface Areas.
Ch2	Sec1	Supervisory Notification.
Ch2	Sec4	Monitoring (Radar & Interphone Comm).
Ch2	Sec4	Authorized Interruptions.
Ch2	Sec4	Authorized Relays.
Ch3	Sec10	Altitude Restricted Low Approach.
Ch4	Sec2	Clearance Prefix.
Ch4	Sec3	Departure Clearances.
Ch4	Sec3	Abbreviated Departure Clearance.
Ch4	Sec3	Delay Sequencing.
Ch4	Sec3	Forward Departure Delay Info.
Ch4	Sec3	Coordination W/Receiving Facility.
Ch4	Sec3	Forwarding Departure Times.
Ch4	Sec8	Circling Approach.
Ch4	Sec8	Missed Approach.
Ch4	Sec8	Low Approach and Touch-And-Go.
Ch5	Sec2	Radar Beacon Code Changes.
Ch5	Sec2	Radio Failure.

(2) Local publications.

KAPC-844

Goal. Clearance knowledge applied in a Radar Approach Control environment.

Reference

(1) FAA 7110.65

Ch2	Sec1	TCAS Resolution Advisories.

Ch4	Sec2	ALTRV Clearances.
Ch4	Sec2	Clearance Items.
Ch4	Sec3	Departure Terminology.
Ch4	Sec3	Departure Restrictions, Clearance Void Times, Hold for Release, and Release Times.
Ch4	Sec3	VFR Release of IFR Departure.
Ch4	Sec5	Vertical Separation Minima.
Ch4	Sec5	Flight Direction.
Ch4	Sec5	Exceptions.
Ch4	Sec5	Lowest Usable Flight Level.
Ch4	Sec5	Altitude Information.
Ch4	Sec5	Anticipated Altitude Changes.
Ch4	Sec6	Clearance Beyond Fix.
Ch4	Sec6	Visual Holding Points.
Ch4	Sec6	Holding Flight Path Deviation.
Ch4	Sec6	Unmonitored NAVAIDS.
Ch4	Sec6	ILS Protection/Critical Areas.
Ch4	Sec7	Clearance Information.
Ch4	Sec8	Approach Clearance.
Ch4	Sec8	Clearance Limit.
Ch4	Sec8	Specifying Altitude.
Ch4	Sec8	Circling Approach.
Ch5	Sec7	Minima.
Ch5	Sec7	Termination.
Ch5	Sec8	Procedures.
Ch5	Sec8	Initial Heading.
Ch5	Sec8	Successive/Simultaneous Departures.
Ch5	Sec8	Departure And Arrival.
Ch5	Sec8	Departures And Arrivals On Parallel Or Non-Intersecting diverging Runways.
Ch5	Sec16	TPX-42-Terminal.
Ch7	Sec1	Approach Control Service for VFR Arriving Aircraft.
Ch7	Sec2	Visual Separation.
Ch7	Sec4	Visual Approach.
Ch7	Sec4	Vectors for Visual Approach.
Ch7	Sec4	Clearances for Visual Approach.
Ch7	Sec4	Approaches to Multiple Runways.
Ch7	Sec4	Contact Approach.
Ch7	Sec5	Special VFR.
Ch7	Sec6	Basic Radar Service To VFR Aircraft - Terminal
Ch9	Sec4	Special Use and ATC Assigned Airspace.
Ch9	Sec5	Fuel Dumping.
Ch9	Sec6	Jettisoning of External Stores.
Ch9	Sec8	Class D Airspace.
Ch9	Sec8	Other Control Airspace.

(2) Local publications.

KAPC-845

Goal. Spacing/Sequencing applied in a Radar Approach Control environment.

Reference

(1) FAA 7110.65

Ch3	Sec1	Traffic Information.
Ch3	Sec9	Same Runway Separation.
Ch3	Sec9	Intersecting Runway Separation.
Ch3	Sec10	Same Runway Separation.
Ch3	Sec10	Intersecting Runway Separation.
Ch3	Sec10	Altitude Restricted Low Approach.
Ch3	Sec10	Closed Traffic.
Ch3	Sec10	Simulated Flameout (SFO) Approaches/ Practice Precautionary Approaches.
Ch4	Sec2	ALTRV Clearances.
Ch4	Sec3	Departure Restrictions, Clearance Void Times, Hold for Release, and Release Times.
Ch4	Sec5	Altitude Information.
Ch4	Sec5	Anticipated Altitude Changes.
Ch4	Sec8	Missed Approach.
Ch5	Sec4	Methods.
Ch5	Sec4	Traffic.
Ch5	Sec5	Application.
Ch5	Sec5	Target Separation.
Ch5	Sec5	Minima.
Ch5	Sec5	Passing or Diverging.
Ch5	Sec5	Additional Separation for Formation Flights.
Ch5	Sec4	Separation From Obstructions.
Ch5	Sec8	Procedures.
Ch5	Sec8	Initial Heading.
Ch5	Sec8	Successive/Simultaneous Departures.
Ch5	Sec8	Departure And Arrival.
Ch5	Sec8	Departures And Arrivals On Parallel Or Non-Intersecting diverging Runways.
Ch5	Sec9	Approach Separation Responsibility.
Ch7	Sec2	Visual Separation.
Ch7	Sec6	Basic Radar Service To VFR Aircraft - Terminal.

(2) NAVAIR 00-80T-114

Ch4	Naval Certification Procedures.
Ch7 Sec 1	(Radar Operations) General.
Ch8	Training, Standardization, and Air Traffic Controller Performance Evaluations.
Appendix G	Air Traffic Control Specialist Mishap Statement.
Appendix I	Minimum Altitude Vectoring Chart.

(3) Local publications.

KAPC-846

Goal. Phraseology/Communications applied in a Radar Approach Control environment.

Reference

(1) FAA 7110.65

Ch2	Sec4	Radio/Interphone Communications.
Ch3	Sec1	Establishing Two-way.

Ch4	Sec2	Clearance Prefix.
Ch4	Sec3	Departure Clearances.
Ch4	Sec3	Abbreviated Departure Clearance.
Ch4	Sec3	Delay Sequencing.
Ch4	Sec3	Forward Departure Delay Info.
Ch4	Sec3	Coordination W/Receiving Facility.
Ch4	Sec3	Forwarding Departure Times.
Ch4	Sec6	Delays.
Ch4	Sec7	Single Frequency Approaches (SFA).
Ch4	Sec7	Radio Frequency and Radar Beacon Changes For Military Aircraft.
Ch4	Sec7	Approach Information.
Ch4	Sec7	Arrival Information By Approach Control Facilities.
Ch4	Sec8	Communications Release.
Ch5	Sec2	Radar Beacon Code Changes.
Ch5	Sec2	Radio Failure.
Ch5	Sec2	VFR Code Assignments.
Ch5	Sec2	Failure to Display Assigned Beacon Code or Inoperative/Malfunctioning Transponder.

(2) Local publications.

KAPC-847

Goal. Separation knowledge applied in a Radar Approach Control environment.

Reference

(1) FAA 7110.65

Ch4	Sec5	Vertical Separation Minima.
Ch4	Sec6	Clearance Beyond Fix.
Ch4	Sec6	Visual Holding Points.
Ch4	Sec6	Holding Flight Path Deviation.
Ch4	Sec6	Unmonitored NAVAIDS.
Ch4	Sec7	Transfer of Jurisdiction.
Ch4	Sec8	Approach Clearance.
Ch4	Sec8	Clearance Limit.
Ch4	Sec8	Circling Approach.
Ch4	Sec8	Missed Approach.
Ch4	Sec8	Practice Approaches.
Ch4	Sec8	Low Approach and Touch and Go.
Ch5	Sec2	Validation of Mode C Readout.
Ch5	Sec2	Altitude Confirmation - Mode C.
Ch5	Sec2	Altitude Confirmation-Non Mode C.
Ch5	Sec3	Application.
Ch5	Sec3	Primary Radar Identification Methods.
Ch5	Sec3	Beacon Identification Methods.
Ch5	Sec3	Questionable Identification.
Ch5	Sec4	Transferring Controller Handoff.
Ch5	Sec4	Receiving Controller Handoff.
Ch5	Sec4	Point Out.
Ch5	Sec5	Application.
Ch5	Sec5	Target Separation.
Ch5	Sec5	Minima.
Ch5	Sec5	Passing or Diverging.

Ch5	Sec5	Additional Separation for Formation Flights.
Ch5	Sec5	Separation From Obstructions.
Ch5	Sec8	Procedures.
Ch5	Sec8	Initial Heading.
Ch5	Sec8	Successive/Simultaneous Departures.
Ch5	Sec8	Departure And Arrival.
Ch5	Sec8	Departures And Arrivals On Parallel Or Non-Intersecting Diverging Runways.
Ch5	Sec9	Approach Separation Responsibility..
Ch5	Sec15	Responsibility (ARTS).
Ch5	Sec15	System Requirements.
Ch5	Sec15	CA/MCI .
Ch5	Sec15	Inhibiting Minimum Safe Altitude Warning (MSAW).
Ch5	Sec15	Track Suspend Function.
Ch7	Sec1	Approach Control Service for VFR Arriving Aircraft.
Ch7	Sec2	Visual Separation.
Ch7	Sec5	SVFR.

(2) Local publications.

KAPC-848

Goal. Letters of Agreement and Facility Directives/ Facility Memos/Publications as applied in a Radar Approach Control OJT environment.

Reference

(1)	FAA 7220.1	Operational Position Standards.
(2)	FAA 7110.65	Air Traffic Control.
(3)	FAA 7210.3	Facility Operations.
(4)	FAA 7340.1	Contractions Directive.
(5)	CFR 91	General Operating.
(6)	AIM	Aeronautical Information Directive.
(7)	AOM	Airfield Operations.
(8)	ATC FacMan	Facility Operations.
(9)	IFR Supplement.	
(10)	VFR Supplement.	
(11)	NOTAMS	General Notices.
(12)	AP1B	Military Training Route
(13)	Local Sectional	
(14)	SECNAVINST 5216.5C	Memorandum of Understanding.

(15) NAVAIR 00-80T-114

Ch3	Facility Management.
Appendix C	Sample format for FAA/USN Letter of Agreement Concerning Control of Air Traffic.
Appendix D	Memorandum of Agreement.

(16) RATCF DAIR Operator's Directive.
(17) STARS Training Directive.
(18) Low Altitude United States.
(19) High Altitude United States.
(20) Local publications.

262. EXPENDABLE ORDNANCE REQUIREMENTS. None.

270. PROFICIENCY INTERVALS. Tables 2-13, 2-14 and 2-15 contain the proficiency intervals for Core Skills and Core Plus training.

Table 2-13.--Enlisted ATC Proficiency Interval for Core Skill Basic Training.

EVENT	PROFICIENCY INTERVAL (Months)	CRP
BTC-200YR	12	0.4
BTC-201R	NA	0.4
BTC-202R	NA	0.4
BTC-203	NA	0.4
BTC-204	NA	0.4
BTC-205	NA	0.5
BTC-206	NA	0.4
BTC-207EYR	12	1.0
BTC-208EYR	12	1.0
BTC-209EYR	12	1.0
BRC-220YR	12	0.4
BRC-221R	NA	0.4
BRC-222	NA	0.4
BRC-223	NA	0.4
BRC-224	NA	0.5
BRC-225EYR	12	1.0
BRC-226EYR	12	1.0
DLC-230	NA	0.4
DLC-231	NA	0.4
DLC-232	NA	0.4
DLC-233EYR	12	0.4
MMT-260	NA	0.4
MMT-261	NA	0.4
MMT-262	NA	0.4
MMT-263	NA	0.4
MMT-264	NA	0.4
MMT-265	NA	0.4
MMT-266E	NA	1.0

Table 2-14.--Enlisted ATC Proficiency Interval for Core Skill Advanced Training.

EVENT	PROFICIENCY INTERVAL (Months)	CRP
TLC-310	NA	0.6
TLC-311	NA	0.6
TLC-312EYR	12	1.0
ADC-340	NA	0.5
ADC-341	NA	0.5
ADC-342EYR	12	1.0
APC-350	NA	0.6
APC-351YR	NA	0.6
APC-352	NA	0.6
APC-353EYR	12	1.0
APC-354	NA	0.5
APC-355EYR	12	0.5
MMT-360	NA	0.5
MMT-361E	NA	1.0
CMT-370	NA	0.5
CMT-371	NA	0.5
CMT-372EYR	12	0.5
CMT-373EYR	12	0.5
BMT-380	NA	0.5
BMT-381	NA	0.5
BMT-382	NA	0.5
BMT-383	NA	0.5
BMT-384	NA	0.5
BMT-385	NA	0.5
BMT-386	NA	0.5
BMT-387	NA	0.5
BMT-388	NA	0.5
BMT-389	NA	0.5
BMT-390	NA	0.5
BMT-391	NA	0.5
BMT-392	NA	0.5
BMT-393	NA	0.5
TERP-395	NA	0.5
TERP-396E	NA	1.0

Table 2-15.--Enlisted ATC Proficiency Interval for Core Plus Training.

EVENT	PROFICIENCY INTERVAL (Months)	CRP
CMT-470	NA	0.5
BMT-480	NA	0.6
BMT-481	NA	0.6
BMT-482	NA	0.6
BMT-483	NA	0.6
BMT-484	NA	0.4
BMT-485	NA	0.4
BMT-486	NA	0.4
BMT-487	NA	0.4
TERP-495E	NA	0.5

271. ENLISTED ATC EVENT UPDATE CHAINING. Table 2-20 contains update chaining events for the enlisted air traffic controller. Only those events with update chaining are listed in table 2-20.

Table 2-16.--Enlisted ATC Event Update Chaining.

EVENT	EVENTS UPDATED	EVENT	EVENTS UPDATED
205	204	361	260,261,262,263,264,265,266
209	204	380	262, 392
222	221	383	221,222
265	206	387	232
311	206, 265		

280. ENLISTED ATC EVENT CONVERSION MATRIX. Appendix G provides a conversion matrix of all events in this new enlisted air traffic controller syllabus as they correspond to the previous syllabus that this chapter replaced.

APPENDIX A

MATC TRAINING LECTURES

T&R ATC TRAINING LECTURES

1. Training requirements for MATC personnel shall be conducted for each phase/stage of the syllabus. The lectures contained in this appendix are strongly encouraged to be incorporated as part of a sound unit training plan. Where indicated, standardized academic training materials exist and may be obtained from the activity listed as the sponsor.

LECTURE CODE	LECTURE TITLE	SPONSOR
	200-Level: Core Skill Basic Training	
A-01*	MAGTF Organization	MCCES
A-02*	MACCS Organization	MCCES
	The Six Functions of Marine Aviation	
A-03*	Control of Aircraft & Missiles	MAWTS-1
A-04*	Offensive Air Support	MAWTS-1
A-05*	Assault Support	MAWTS-1
A-06*	Electronic Warfare	MAWTS-1
A-07*	Aerial Reconnaissance	MAWTS-1
A-08*	Anti-Air Warfare	MAWTS-1
A-09*	Air Tasking Order/Special Instructions	MCCES
A-10*	MACCS Training Management	Local MACG
A-11*	MACCS Reference Material	MCCES
A-12*	Local AOR Contingencies & OP PLANS	Local MACG
A-13*	ROE Overview	Local MACG
A-14*	MACCS Communications	MAWTS-1
A-15*	TBMCS Overview	MAWTS-1
A-16*	Data Link Symbology	Local MACG
A-17*	Directive Crosstell Procedures	Local MACG
A-18*	Encryption & Authentication Procedures	MCCES
A-19*	COMSEC & Crypto Handling	MCCES
	300-Level: Core Skill Advanced Training	
B-01*	Missile and UAV Threat to the MAGTF	MAWTS-1
B-02*	Fixed Wing Threat to the MAGTF	MAWTS-1
B-03*	Rotary Wing Threat to the MAGTF	MAWTS-1
B-04*	REC Threat	MAWTS-1
B-05*	Armor Threat to the MAGTF	MAWTS-1
B-06*	AOR Specific Threat & OP PLANS	Local MACG
	MACCS Agencies	
B-07*	TACC	MAWTS-1
B-08*	TAOC	MAWTS-1
B-09*	DASC	MAWTS-1
B-10*	ATC Detachment	MAWTS-1
B-11*	LAAD Bn	MAWTS-1
B-13*	MWCS	MAWTS-1
B-14*	AC2W-ISR	MAWTS-1
B-15*	Multi TADIL Network	MAWTS-1
B-16*	USMC Aviation Ordnance	MCCES
B-17*	Phasing Control Ashore	MAWTS-1

LECTURE CODE	LECTURE TITLE	SPONSOR
B-18*	Airspace Planning/Management (Combat Airspace)	Local MACG
B-19*	Tanker Management	MAWTS-1
B-20*	Armed Reconnaissance	MAWTS-1
B-21*	UAV Overview	MAWTS-1
B-22*	Link Architecture & Procedures	Local MACG
B-23*	Introduction to Personnel Recovery	MAWTS-1
B-24*	NEO Execution	MAWTS-1
B-25*	Execution Checklist	MAWTS-1
	400-Level: Core Plus Training	
C-01*	Integrated Combat Airspace Command & Control ($ICAC^2$)	Local MACG MAWTS-1
C-02*	Joint Air Operations	MAWTS-1
C-03*	TBM and CM Defense	MAWTS-1
C-04*	JTAO Procedures	MCCES
C-05*	Law of War and ROE	MAWTS-1
C-06*	SIS Aircraft	MAWTS-1

(*) The lecture code is standardized throughout all MACCS related syllabi and is used to link the ATRIMS software to a specific T&R event within this syllabus. Lecture codes may not be listed sequentially.

APPENDIX B

TRAINING REFERENCES

ATC TRAINING REFERENCES

1. Tables B-1 through B-6 provide training references that shall be utilized to ensure safe and standardized training procedures, performance steps, grading criteria, and equipment operation.

Table B-1.--FAA Training References.

FAA	
DIRECTIVE/ORDER	**TITLE**
FAA 7110.65	Air Traffic Control Directive
FAA 7110.10	Flight Services
FAA 7210.3	Facility Operation and Administration
FAA 7400.8	Special Use Airspace
FAA 7220.1	Certification and Rating Procedures
FAA 7340.1	Contractions
FAR 65	Certification of Airmen Other Than Flight Crewmembers
FAR 91	General Operating and Flight Rules
	Aeronautical Information Directive (AIM)
	IFR Supplement
	VFR Supplement
	Low Altitude United States
	High Altitude United States
FAA Handbook OAP 8200.1	U.S. Standard Flight Inspection Directive
	Notices to Airmen (NOTAM)
AP1 A	Area Planning for North and South America
AP1 B	Military Training Routes for North and South America
	Local Sectional
DOC-4444/501	ICAO Rules of the Air and ATC Service
	Airfield Operations Directive (AOM)
	Facility Directive (FACMAN)
	Daily Flight Schedule
	RATCF DAIR Operator's Directive
	Facility Directives
	Letters of Agreement
	Facility Memorandums
	Facility Forms
	Pilot Controller Handbook (PCH)
	TERPS Directive
	STARS Training Guide

Table B-2.--Navy Training References.

NAVY	
DIRECTIVE/ORDER	**TITLE**
SECNAVINST 5216.5C	Memorandum of Agreement
OPNAVINST 5510.1	Department of the Navy Information and Personnel Security Program Regulation
OPNAVINST 3770.2	Airspace Procedures Directive
OPNAVINST 3722.16	U.S. Standard Flight Inspection Directive
NAVAIR 00-80T-114	ATC Facilities Directive
NAVAIR 00-80T-115	Expeditionary Airfields
NAVAIR 51-50AAA-2	Airfield Markings

Table B-3.--Marine Corps Training References.

MARINE CORPS	
DIRECTIVE/ORDER	**TITLE**
MCDP 6	Command and Control
MCWP 3-2	Aviation Operations
MCWP 3-22	Anti-Air Warfare
MCWP 3-22.2	SEAD
MCWP 3-23	OAS
MCWP 3-24	Assault Operations
MCWP 3-25	Control of Aircraft and Missiles
MCWP 3-25A	Multi-service Procedures for JATC
MCWP 3-25B	Multi-Service Brevity Codes
MCWP 3-25C	Introduction to TADIL-J
MCWP 3-25D	Integrated Combat Airspace Command and Control
MCWP 3-25.3	MACCS Handbook
MCWP 3-25.4	TACC Handbook
MCWP 3-25.5	DASC Handbook
MCWP 3-25.7	TAOC Handbook
MCWP 3-25.8	MATCD Handbook
MCWP 3-25.9	MACCS Communications Handbook
MCWP 3-11.2	Marine Rifle Squad
MCWP 3-11.3	Scouting and Patrolling
MCWP 3-11.4	Helicopter borne Operations
MCWP 3-11.4A	Helicopter Insert/Extraction
MCWP 3-17	Engineer Operations
MCWP 3-31.5	Ship to Shore Movement
MCWP 3-33	Military Operations Other Than War (MOOTW)
MCRP 3-33A	Counter-Guerilla Operations
MCWP 3-33.2	Civil Disturbance
MCWP 3-33.6	Humanitarian Assistance Operations
MCWP 3-36	Command and Control Warfare
MCWP 3-36.1	Electronic Warfare
MCWP 3-37	MAGTF NBC Defense Handbook
MCWP 3-37A	NBC Field Handbook
MCWP 3-37.5	NBC Defense of Fixed Sites, Ports, and Airfields
MCWP 5-1	Marine Corps Planning Process
MCWP 5-11	MAGTF Aviation Planning
MCWP 5-11.1A	Aviation Planning Documents

Deleted: Helicopterborne

Table B-3.--Marine Corps Training References (continued).

MARINE CORPS	
DIRECTIVE/ORDER	**TITLE**
MCWP 6-2	MAGTF C-2
MCWP 6-22	Communications and Information Systems
MCWP 6-22A	Talk II SINCGARS
MCRP 3-02E	Individual Guide to Terrorism
MCRP 6-22D	Field Antenna Handbook
MCO 1510.28A	Marine Air Traffic Control (ATC) and ATC Maintenance Personnel Training, Qualification, and Proficiency Records
MCO 3501.9B	Marine Corps Combat Readiness Evaluation System (MCCRES)
MCO 5600.20	Marine Corps War Fighting Publication System
ATO/ACO	Air Tasking Order/Air Control Order
CMS-1	Communications Security Material System Directive
ACP	Aviation Campaign Plan
SPINS	Special Instructions
	Marine Aviation Command and Control System Information Flow Model dtd 30 Sep 1988

Table B-4.--Maintenance Training References.

MAINTENANCE	
DIRECTIVE/ORDER	**TITLE**
	MATCALS Controller Handbook
TM 2000 Series	HMMWV and Tactical Quiet Generator
TM 119-MA-OMI-010	Part II Expeditionary Control Tower Equipment Basic Course SA2257TSQ-120
	MATCALS System Operation Directive
	MATCALS Operator's Handbook

Table B-5.--MAWTS-1 Training References.

MAWTS-1	
DIRECTIVE/ORDER	**TITLE**
	MAWTS Course Catalog
	MAWTS-1 ASP
	MAWTS-1 SOP
	MAWTS-1 MACCS Reference Guide
	MMT SOP

Table B-6.--MCI Training References.

MCI COURSES	
MCI	**TITLE**
MCI 04.7	Introduction to Amphibious Embarkation
MCI 06.32	HF/UHF Field Radio Equipment
MCI 25.15	Antenna Construction and Propagation of Radio Waves
MCI 25.20	Communications for the FMF Marine
MCI 25.25	Communications Security
MCI 57.6	Chemical Warfare Defense
MCI 57.7	Nuclear Warfare Defense
MCI 8500	Amphibious Warfare School Non-resident Program

Table B-7.--Joint Multi-service and Allied Publications Training References.

JOINT MULTISERVICE AND ALLIED PUBS	
DIRECTIVE/ORDER	**TITLE**
Joint Pub 1	Joint Warfare of the US Armed Forces
Joint Pub 1-02	DOD Dictionary of Military and Associated Terms, March 1994
Joint Pub 0-2	Unified Action Armed Forces
Joint Pub 3-0	Doctrine for Joint Operations
Joint Pub 3-01-2	Joint Doctrine for Theater Counter Air/Air Defense
Joint Pub 3-01-3	Air Defense from Overseas Land Areas
Joint Pub 3-01.5	Doctrine for Joint Theater Missile Defense
Joint Pub 3-52	Doctrine for Joint Airspace Control in a Combat Zone
Joint Pub 3-56.1	Command and Control for Joint Air Operations/Service Operations
Joint Pub 3-56-23	Air Control/Air Defense Procedures
Joint Pub 3-56.24	Tactical Command and Control Planning Guidance and Procedures for Joint Operations
Joint Pub 5-03.1	Joint Operations Planning and Execution System
Module 1	Introduction to the JTAO Interface, JTAO CBT Modules
Module 2	Introduction to TADIL Operations, JTAO CBT Modules
Module 4	Introduction to Naval Warfare, JTAO CBT Modules
Module 5	NTDS and ATDS, JTAO CBT Modules
Module 6	Ground Elements of the Theater Air Control System (TACS), JTAO CBT Modules
Module 7	Airborne Elements of the Air Control System (AEACS), CBT Modules
Module 8	Army Air Defense Command and Control System (AADCCS), CBT Modules
Module 9	Service and Joint Communications Systems in the JTAO Interface, JTAO CBT Modules
ACCI 13-10C	Air Operations Center
ACCR 55-44	Theater Air Control System Modular Control System
AFM 2-1	Tactical Air Operations, Counter Air, Close Air Support and Air Interdiction

Table B-7.--Joint Multi-service and Allied Publications Training References (continued).

JOINT MULTISERVICE AND ALLIED PUBS	
DIRECTIVE/ORDER	**TITLE**
FM 44-100	U.S. Army Air Defense Operations
FM 44-100-2	Air Defense Reference Handbook
FM 44-85	Patriot Battalion and Battery Operations
FM 44-63	FAADS/SHORAD Operations, Jane's Land Based Air Defense
FM 100-103	Army Airspace Command and Control in a Combat Zone
	TBMCS Operator/Technician Course Advance Sheets
	ADS Software User's Directive (SUM)
	Operator Familiarization Course Training Materials for the Advanced Planning System (APS)
	Air Operations Center, ACCI 13, 1 Feb 95
	Air Combat Command (ACC) C4I Systems Guide, Vol I, HQ ACC/SC, 24 Dec 1994
	A History of the Contingency Theater Automated Planning System (CTAPS), Part One, Background, HQ TAC, Jan 91
	Software User's Directive (SUM) for the Human-Machine-Interface (HMI) of the Theater Battle Management Core System (TBMCS)
	Air Combat Command Computer Systems Squadron, Langley Air Force Base, VA 23665-2091
	ICAC2 Multi-service Procedures for Integrating Airspace Command and Control in the Combat Zone
ATP-40	Doctrine for Airspace Control in Times of Crisis and War

APPENDIX C

SYLLABUS EVALUATION

ATC SYLLABUS EVALUATION

1. **Event:** (Number)

2. **Goal:** (Enter the T&R syllabus goal)

3. **Requirement:** (Enter the T&R condition for the event)

4. **Performance Standards:** (Enter the T&R performance standards and how they were met for the event)

5. **Prerequisite(s) Met:** Evaluator's initials:

6. **Additional Comments:**

Evaluator's Signature Date

Marine's Signature Date

MATCD Commander/ATCFO Date

APPENDIX D

CAREER PROGRESSION TIMELINES

Recommended Enlisted Career Progression Timeline

1. Recommended Training Timeline. The following table provides recommended MOS training timelines.

TOWER TRAINING TRACK	TIME	RADAR TRAINING TRACK
AMLO/Monitor/OPS CHF	24 years	AMLO/Monitor/OPS CHF
NCOIC	18 years	NCOIC
Training Chief	15 years	Training Chief
Branch Chief	12 Years	Branch Chief
WTI	10 Years	WTI
Radar Supervisor	9 Years	Tower Supervisor
FWO	8 Years	FWO
Approach Controller	7 Years	Local Controller
MMT Leader	6 Years	RS/TFD/TGC/MMT Leader
Arrival Controller	5 Years	Approach Controller
TS/RFD/RFC/DLC	4 Years	
Local Controller	40 months	Arrival Controller
MMT Member	24 months	MMT Member
OJTI	18 months	OJTI
TFD/TGC (Initial MOS)	13 months	RFD/RFC (Initial MOS)
Graduate ACA1 Course	4 months	Graduate ACA1 Course
ACA1 Course	Core Skill Introduction MATC training begins	ACA1 Course

2. Enlisted Maximum Training Timeline

a. MARADMIN 230/04 provides maximum MOS training timelines for enlisted Marines to obtain required primary and secondary MOS qualifications and the waiver process if not met.

b. An active duty enlisted controller assigned to the Reserve ATC detachment (MACS-23) shall submit waiver packages if the controller does not meet applicable MARADMIN 230/04 requirements.

c. Marine Corps Reserve Applicability. The ATC MOS skill progression and qualification standards listed below in MARADMIN 230/04 paragraph 100.7b through 100.7e do not apply to the Marine Corps Reserve. Waiver packages should not be submitted on behalf of Reserve controllers who have successfully completed their initial active duty training and obligations, and have returned to a drilling status.

MARADMIN 230/04

«««----------»»»

Date signed: 05/19/2004 **MARADMIN Number: 230/04**
R 192030Z MAY 04
FM CMC WASHINGTON DC(uc)
TO AL MARADMIN(uc)
MARADMIN
UNCLASSIFIED
MARADMIN **230/04**
MSGID/GENADMIN/CMC WASHINGTON DC AVN//
SUBJ: MOS SKILL DESIGNATIONS FOR MARINE AIR TRAFFIC CONTROLLERS//
REF/A/DOC/CMC MCO P3500.12/16APR01//
REF/B/MSG/CMC MARADMIN 435/99//
REF/C/DOC/NAVAIR 00-80T-114 (ATC NATOPS)//
REF/D/MSG/CG 3DMAW 042302Z NOV 03//
REF/E/MSG/CMC MARADMIN 229/04//
NARR/REF A, IS THE MARINE CORPS MACCS T&R MANUAL. REF B ESTABLISHED ATC QUALIFICATION REQUIRMENTS FOR USMC ATC PERSONNEL. REF C IS THE DON ATC NATOPS. REF D MARINE AIR CONTROL GROUP OPERATIONAL ADVISORY GROUP (MACG OAG) FALL 2003 EXECUTIVE STEERING COMMITTEE (ESC) RESULTS APPROVED NEW QUALIFICATION TIMELINES FOR USMC ATC PERSONNEL. REF E ESTABLISHED ATC SERVICES PROVIDED, ATC SKILL SETS TRAINED TO, MOS AND CTO/ATCS RATINGS AVAILABLE BASED ON CNO N785F ASSIGNED USMC ATC FACILITY CLASSIFICATIONS.//
POC/W.J. NIX/LTCOL/AVN APC-5/LOC: HQMC/TEL: DSN 224-1850/
EMAIL: NIXWJ@HQMC.USMC.MIL//
GENTEXT/REMARKS/1. PURPOSE: THE INFORMATION AND INSTRUCTIONS CONTAINED IN THIS MESSAGE COMPLETE THE ACTIONS APPROVED BY THE ABOVE REFERENCES FOR AIR TRAFFIC CONTROL (ATC) MOS 7257 AND ADDITIONAL ATC MOS SKILL DESIGNATORS.
2. MOS 7257 EQUATES TO 2 POSITION QUALIFICATIONS IN THE TOWER (GROUND AND FLIGHT DATA) OR 2 POSITION QUALIFICATIONS IN RADAR (RADAR FINAL CONTROLLER AND RADAR FLIGHT DATA).
3. ALL MARINES CURRENTLY HOLDING A RADAR FINAL CONTROLLER MOS SKILL DESIGNATION OF 7253 SHALL HAVE THEIR MOS SKILL DESIGNATION CHANGED TO MOS 7257.
4. ALL MARINES WHO HAVE RECEIVED A RADAR ARRIVAL/DEPARTURE CONTROL POSITION QUALIFICATION AT A CLASS IIIB, IVB OR VII ATC FACILITY (OR DETACHMENT) PER REF E SHALL BE AWARDED A MOS SKILL DESIGNATION OF 7253.
5. ALL MARINES WHO HAVE RECEIVED A RADAR APPROACH CONTROL POSITION QUALIFICATION AT A CLASS IVB OR VII ATC FACILITY OR ATC DETACHMENT PER REF C OR E SHALL BE AWARDED AN MOS SKILL DESIGNATION OF 7254.
6. THE TOWER LOCAL CONTROL MOS SKILL DESIGNATION OF 7252 REMAINS THE SAME.
7. ATC MOS SKILL PROGRESSION AND QUALIFICATION STANDARDS ARE AS FOLLOWS:
A. MOS 7257 SHALL BE ACHIEVED BY MARINES WITHIN THE FIRST 9-MONTHS OF ARRIVING AT THEIR FIRST ATC FACILITY OR THEY WILL BE PROCESSED FOR MOS REVOKATION AND REASSIGNMENT TO ANOTHER OCCUPATIONAL FIELD.
B. MARINES WITHIN 3 YEARS OF GRADUATION FROM ACA(1) SCHOOL SHALL ACHIEVE 7257/52 OR 7257/53 OR 7257/54 OR THEY WILL BE PROCESSED FOR MOS REVOKATION AND REASSIGNMENT TO ANOTHER OCCUPATIONAL FIELD.
C. ALL MARINE AIR TRAFFIC CONTROLLERS SHOULD OBTAIN TWO OF THE FOLLOWING MOS SKILL DESIGNATIONS: 7252, 7253, OR 7254 WITHIN SIX (6) YEARS OF GRADUATION FROM ACA(1) SCHOOL.
D. ALL MARINE AIR TRAFFIC CONTROLLERS SHALL OBTAIN TWO OF THE FOLLOWING MOS SKILL DESIGNATIONS: 7252, 7253, OR 7254 WITHIN NINE (9) YEARS OF GRADUATION FROM ACA(1) SCHOOL OR THEY WILL BE PROCESSED FOR MOS REVOKATION AND REASSIGNMENT TO ANOTHER OCCUPATIONAL FIELD.
E. ALL MARINE AIR TRAFFIC CONTROLLERS SHALL OBTAIN ALL THREE OF THE FOLLOWING MOS SKILL DESIGNATIONS: 7252, 7253, AND 7254 WITHIN TWELVE (12) YEARS OF GRADUATION FROM ACA(1) SCHOOL OR THEY WILL BE PROCESSED FOR MOS REVOKATION AND REASSIGNMENT TO ANOTHER OCCUPATIONAL FIELD.
8. AS OF THE DTG OF THIS MARADMIN MARINES WITH 12 OR MORE YEARS OF QUALIFIED ATC

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SERVICE FOLLOWING INITIAL 7252 OR 7253 OR 7254 MOS QUALIFICATION SHALL BE EXEMPT FROM THE REQUIREMENT TO OBTAIN ALL THREE MOS SKILL DESIGNATIONS: 7252, 7253, AND 7254. HOWEVER THEY ARE STRONGLY ENCOURAGED TO OBTAIN ADDITIONAL MOS SKILL DESIGNATIONS IF CIRCUMSTANCES PERMIT AND/OR DIRECTED BY THEIR CHAIN OF COMMAND.
9. ONLY HQMC APC (OCCFLD SPONSOR) CAN APPROVE WAIVERS TO THE ABOVE STANDARDS. ALL REQUESTS FOR WAIVERS SHALL BE HANDLED IN THE FOLLOWING MANNER:
A. SUBMIT WAIVER REQUESTS TO HQMC (APC) VIA NAVAL LETTER VIA THE CHAIN OF COMMAND. (NOTE: WAIVER PACKAGES ORIGINATED AT MCAS'S AND MCAF'S SHALL INCLUDE APPLICABLE ATC QUALITY ASSURANCE OFFICES AS PART OF THE ROUTING PROCESS)
B. WAIVER REQUESTS SHALL CONTAIN THE FOLLOWING REQUIRED ELEMENTS:
(1) CONTROLLER EVALUATION BOARD (CEB) RESULTS AND RECOMMENDATIONS FOR THOSE MARINES WITH LESS THAN 12 YEARS OF QUALIFIED ATC SERVICE.
(2) BRIEF ATC HISTORY OF THE MARINE FROM ATTACHMENT AT FIRST ATC FACILITY TO PRESENT.
(3) ANY ADDITIONAL INFORMATION THAT IS PERTINENT TO THE WAIVER REQUEST (I.E. ATC FACILITY STAFFING, DEPLOYMENTS, AND OTHER RELATED ISSUES).
(4) AN ATC TRAINING PLAN TO INCLUDE A SPECIFIC TIMELINE, END DATE, AND STEPS FOR THE MARINE TO OBTAIN THE REQUIRED MOS QUALIFICATIONS CONTAINED IN REF A.
(5) ATC MOS REVOCATION RECOMMENDATIONS WILL CONTINUE TO BE SUBMITTED PER NAVAIR 00-80T-114 AIR TRAFFIC CONTROL NATOPS MANUAL.
C. COMMANDS RECEIVING AN ATC MARINE RETURNING FROM A "B" BILLET THAT REQUIRES A WAIVER, SHALL SUBMIT A WAIVER REQUEST FOR THAT MARINE IMMEDIATLEY UPON HIS/HER RETURN TO A PMOS DUTY STATION. A CEB IS NOT REQUIRED.
D. IF A WAIVER IS APPROVED, A COPY OF THE WAIVER SHALL BE PLACED IN THE MARINES MACCS PERFORMANCE JACKET AND THE MARINE SHALL BE NOTIFIED OF THE PERFORMANCE REQUIREMENTS AND THE TIME FRAME ALLOTED TO OBTAIN REQUIRED POSITION QUALIFICATION(S) FOR MOS SKILL(S) DESIGNATION.//

APPENDIX E

USMC FACILITY CLASSIFICATIONS

USMC FACILITY CLASSIFICATIONS

Note: Policy set by MARADMIN 229/04 remains in effect until cancelled by the HQMC. A part of this message was reformatted for easier reading. However, the contents of the message have not been changed, below is the message verbatim.

MARADMIN 229/04

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Date signed: 05/19/2004 **MARADMIN Number**: **229/04**
R 192000Z MAY 04
FM CMC WASHINGTON DC(uc)
TO AL MARADMIN(uc)
MARADMIN
BT
UNCLASSIFIED
MARADMIN 229/04
MSGID/GENADMIN/CMC WASHINGTON DC AVN//
SUBJ: USMC ATC FACILITY CLASSIFICATIONS //
REF/A/DOC/NAVAIR 00-80T-114 (ATC NATOPS)//
REF/B/DOC/CMC (C461/16APR01//
REF/C/MSG/2003 MACG OAG ESC MSG 042302Z NOV 03//
REF/D/ATCF CLASSIFICATION LTR MCAS YUMA//
REF/E/ATCF CLASSIFICATION LTR MCAS CHERRY POINT//
REF/F/ATCF CLASSIFICATION LTR MCAS BEAUFORT//
REF/G/ATCF CLASSIFICATION LTR MCAS NEW RIVER//
REF/H/ATCF CLASSIFICATION LTR MCAS IWAKUNI//
REF/I/ATCF CLASSIFICATION LTR MCAS FUTENMA//
REF/J/ATCF CLASSIFICATION LTR MCAS CAMP PENDLETON//
REF/K/ATCF CLASSIFICATION LTR MCAS MIRAMAR//
REF/L/ATCF CLASSIFICATION LTR MCAS QUANTICO//
REF/M/ATCF CLASSIFICATION LTR MACS-1 ATC DET SELF 29 PALMS//
REF/N/ATCF CLASSIFICATION LTR MACS-2 ATC DET MCALF BOGUE FIELD//
NARR/AMPN/REF A IS THE AIR TRAFFIC CONTROL NATOPS. REF B IS THE USMC MOS MANUAL. REF C IS THE MARINE AIR CONTROL GROUP OPERATIONAL ADVISORY GROUP (MACG OAG) FALL 2003 EXECUTIVE STEERING COMMITTEE (ESC) RESULTS. REF D THROUGH N ARE CNO N785F ATC FACILITY CLASSIFICATION LETTERS.//
POC/BILL NIX/LTCOL/APC-5/LOC:HQMC/TEL: (703) 614-1850/TEL:DSN 224-1850/ EMAIL:NIXWJ@HQMC.USMC.MIL//
POC/PHIL KENOYER/LTCOL/N785F3/LOC:OPNAV/TEL:(703) 604-7728/TEL:DSN 664-7728 /EMAIL:PHILLIP.KENOYER@NAVY.MIL//

GENTEXT/REMARKS/1. PER REF A CNO N785F IS THE ATC FACILITY CLASSIFICATION AUTHORITY FOR DON ATC FACILITIES. REF A ALSO ESTABLISHES ATC SERVICES PROVIDED BY DON ATC FACILITIES AND LISTS APPLICABLE ATCS RATINGS AND CTO REQUIREMENTS FOR NAVY AND USMC AIR TRAFFIC CONTROLLERS. REF B DESCRIBES THE MOS SKILL SETS REQUIRED FOR USMC AIR TRAFFIC CONTROLLERS. REF C ESTABLISHED ATC OCCFLD SKILL SETS AND TRAINING STANDARDS FOR MARINE AIR TRAFFIC CONTROLLERS TO SUPPORT MACS ATC DETACHMENTS, MARINE CORPS AIR STATIONS AND MARINE CORPS AIR FACILITIES.
2. IN FEBRUARY 2003 CNO N785F PROVIDED ATC FACILITY CLASSIFICATION LETTERS, REF D THROUGH N, TO EACH USMC ATC FACILITY TO INCLUDING MACS-1 ATC DET SELF 29-PALMS AND MACS-2 ATC DET C MCALF BOGUE FIELD.
3. IN ACCORDANCE WITH REF A AND IN SUPPORT OF REF B, THIS MARADMIN ESTABLISHES ATC SERVICES PROVIDED, ATC SKILL SETS TRAINED TO, MOS AND CTO/ATCS RATINGS AVAILABLE BASED ON CNO N785F ASSIGNED ATC FACILITY CLASSIFICATIONS:

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ATCF CLASSIFICATION	ATC SERVICES PROVIDED	SKILL SETS RATING	MOS	CTO/ATCS
CLASS II NOTE(1)	AIRPORT TRAFFIC CONTROL SERVICE	TOWER CONTROLLER	7252	CTO
CLASS IIIA NOTE(2)	AIRPORT TRAFFIC CONTROL SERVICE	TOWER CONTROLLER	7252	CTO
	LOW APPROACH AND LANDING SERVICE	BASIC CONTROLLER	7257	RFC
CLASS IIIB	AIRPORT TRAFFIC CONTROL SERVICE	TOWER CONTROLLER	7252	CTO
	LOW APPROACH AND LANDING SERVICE	BASIC CONTROLLER	7257	RFC
		ARRIVAL CONTROLLER	7253	RATCF
CLASS IVB	AIRPORT TRAFFIC CONTROL SERVICE	TOWER CONTROLLER	7252	CTO
	LOW APPROACH AND LANDING SERVICE TERMINAL AREA CONTROL SERVICE	BASIC CONTROLLER	7257	RFC
		ARRIVAL CONTROLLER	7253	RATCF
		APPROACH CONTROLLER	7254	TRACON
CLASS VII	AIRPORT TRAFFIC CONTROL SERVICE	TOWER CONTROLLER	7252	CTO
	LOW APPROACH AND LANDING SERVICE TERMINAL AREA CONTROL SERVICE	BASIC CONTROLLER	7257	RFC
		ARRIVAL CONTROLLER	7253	RATCF
		APPROACH CONTROLLER	7254	TRACON
	SPECIAL USE AIRSPACE CONTROL SERVICE	ARTCC NOTE(3)		

NOTE 1: SELF 29-PALMS SUBSEQUENT CTO RATING ONLY
NOTE 2: MCALF BOGUE SUBSEQUENT CTO AND RFC RATING ONLY
NOTE 3: MCAS YUMA ONLY WHEN BOTH 7253 MOS AND 7254 MOS ARE ACHIEVED

4. CLASS IIIB AND IVB USMC ATC FACILITIES ARE ALLOWED TO PROVIDE SPECIAL USE AIRSPACE CONTROL SERVICE IN ASSIGNED AIRSPACE AS DELINEATED IN LETTERS OF AGREEMENT WITH APPROPRIATE FAA AND/OR MILITARY AIR TRAFFIC CONTROL FACILITIES/AGENCIES.

5. THOUGH NOT REQUIRED USMC ATC FACILITIES ARE NOT PRECLUDED FROM PROVIDING LIMITED ADDITIONAL ATC SERVICES ASSOCIATED WITH HIGHER CLASSIFIED ATC FACILITIES WHEN IN SUPPORT OF THE NATIONAL AIRSPACE SYSTEM AS DELINEATED IN LETTERS OF AGREEMENT WITH ADJACENT FAA AND/OR MILITARY ATC FACILITIES. HOWEVER, THIS DOES NOT AUTHORIZE MCAS OR MCAF COMMANDS TO AWARD A MOS SKILL DESIGNATION ASSOCIATED WITH A HIGHER CLASSIFIED ATC FACILITY.

6. FOR THOSE MARINE AIR TRAFFIC CONTROLLERS WHO RECEIVED AN INITIAL 7254 MOS SKILL DESIGNATION AT MCAF QUANTICO OR MCAS NEW RIVER ON OR AFTER 14 FEB 2003 SHALL HAVE THE 7254 MOS SKILL DESIGNATION REMOVED FROM APPROPRIATE RECORDS AND THE 7253 MOS SKILL DESIGNATION INSERTED.

7. A FOLLOW-ON MARADMIN WILL CLARIFY SPECIFIC MOS SKILL DESIGNATIONS AND REQUIREMENTS.

8. THIS MARADMIN HAS BEEN COORDINATED WITH AND HAS CONCURRANCE OF CNO N785F.//

APPENDIX F

MATCO EVENT CONVERSION MATRIX

MATCO EVENT CONVERSION MATRIX

1. This appendix provides the below conversion matrix of all events in this new MATCO syllabus as they correspond to the previous MATCO syllabus that this chapter replaced.

NEW EVENT #	GOAL	OLD EVENT #
	200 LEVEL EVENTS	
BTC-220	Operate fixed tower equipment	SYS-251
BTC-221	Operate the Expeditionary Control Tower (AN/TSQ-120) and associated equipment	SYS-256
BTC-222	Operate the Remote Landing Site Tower (AN/TSQ-216) and associated equipment	SYS-258
BTC-223	Perform duties as Tower Ground Controller	OPS-271
BTC-224	Qualify as a Tower Ground Controller	CK-281
BRC-230	Operate fixed RADAR equipment	SYS-250
BRC-231	Control precision/surveillence approaches	SIM-260
BRC-232	Perform the duties of a Radar Final Controller	OPS-270
BRC-233	Qualify as a Radar Final Controller	CK-280
	300 LEVEL EVENTS	
CMT-340	Conduct a MATC standard facility crew brief and/or a tactical crew brief	OPS-340
CMT-341	Perform the duties of ATCFWO	NEW
CMT-342	Perform duties as an assistant ATC Facility Officer	OPS-342
BMT-357	Configure the Control and Communications Subsystem (AN/TSQ-131) for operations	SYS-320
BMT-358	Develop an ACO utilizing a TBMCS AD Module	SYS-321
BMT-359	Understand TBMCS ATO	NEW
BMT-360	Describe airspace and MATC considerations in regard to FAA	FAM-311
BMT-361	ICAO considerations	FAM-312
BMT-362	ATC services ISO of FOB	SIM-330
BMT-363	Understand communications planning	SIM-331
BMT-364	Prepare, request and supervise flight inspection/certification	OPS-341
BMT-365	Perform as MATCD WC	OPS-342
BMT-366	MATCALS Electronic Protection (EP) measures	OPS-343
BMT-367	Plan and employ a Base Defense Zone	OPS-346

NEW EVENT #	GOAL	OLD EVENT #
BMT-368	Conduct TDL B and C operations	OPS-347
BMT-369	ATO/ACO/ACP/OPTASKLINK/SPINS	FAM-305
BMT-370	Understand VMU systems and VMU capabilities	FAM-316
BMT-371	Conduct MATC operations in an NBC environment	SIM-332
BMT-372	RAS	SIM-433
BMT-373	EMCON/RADCON	OPS-441
MMT-380	Operate communications in secure mode and freq agile mode	OPS-272
MMT-381	Communications planning	SIM-331
MMT-382	Perform as an MMT Leader	OPS-344
MMT-383E	Qualify as an MMT Leader	QUAL-390
	400 LEVEL EVENTS	
CMT-440	Perform as an ATCFO	NEW
BMT-460	TDL operations	FAM-405
BMT-461	TBMCS Advanced Planning System	FAM-410
BMT-462	Operate within a TAOC	NEW
BMT-463	Operate within a DASC	NEW
BMT-464	Operate within LAAD	NEW
BMT-465	Integrated combat airspace and control	SIM-430
BMT-466	MATCD deployment planning	SIM-431
BMT-467	MISTEX	SIM-432
BMT-468	Perform as a MATC Liaison Officer	SIM-433
BMT-469	ACE planning staff member	OPS-443
BMT-470	Theater missile and air defense planning	OPS-444
BMT-471	ATO cycle	OPS-446
BMT-472	ACP for joint combat operations	OPS-447
BMT-473	ACO for joint combat operations	OPS-448
BMT-474	Operate in a TACC	OPS-449
BMT-477	Perform as Det Commander	NEW
MMT-480	MMT/ATC liaison officer	OPS-442

MATCO EVENT CONVERSION MATRIX

NEW EVENT #	GOAL	OLD EVENT #
	500 LEVEL EVENTS	
INST-500	Qualify as a WTI	
INST-501	Qualify as an MMT Leader Instructor.	
	600 TRACKING CODES FOR QUALIFICATIONS	
QUAL-624	Qualify as a TGC	CK-281
QUAL-633	Qualify as a RFC	CK-280
QUAL-683	Qualify as MMT Leader	QUAL-390
	600 TRACKING CODES FOR DESIGNATIONS	
DESG-600	Designate as WTI	NEW
DESG-601	Designate as MMT Leader Instructor.	NEW
DESG-640	Designate as ATCFO	NEW
DESG-642	Designate as FWO	OPS-342
DESG-665	Designate as MATCD WC	OPS-342
DESG-677	Designate as MATCD Commander	OPS-342
DESG-683	Designate as MMT Leader	NEW
	TACTICAL KNOWLEDGE EVENTS	
KFAM-700	Operate MATC communication assets and capabilities	*
KFAM-701	Identify standard data link symbology	*
KFAM-702	Describe Electronic Warfare	*
KFAM-703	Describe Operational Data (OPDAT) message preparation and use	*
KFAM-704	Describe phasing control ashore	*
KFAM-705	Describe Airspace Deconfliction System (ADS)	•
KFAM-706	Describe the Joint Air Operations Center (JAOC)	*
KFAM-707	Understand C2 of USMC TACAIR in joint operations	•
KFAM-708	Understand command and control warfare (C2W)	*
KFAM-709	Understand Anti-Radiation Missiles (ARM) Countermeasures for MACCS units	*
KFAM-710	Understand JTAO interface	*
KFAM-711	Understand the Theater Air Ground System (TAGS)	*
KFAM-712	Understand Airborne Elements of the Air Control System (AEACS)	*

MATCO EVENT CONVERSION MATRIX

NEW EVENT #	GOAL	OLD EVENT #
KFAM-713	Understand the Army Air Defense Command and Control System (AADCCS)	*
KFAM-714	Understand Special Information Systems Aircraft (SIS A/C)	*
KFAM-715	Understand the fundamental principles of Joint Combat Airspace Doctrine, Organizations and Procedure	*
	NONTACTICAL KNOWLEDGE EVENTS	
KFAM-800	General knowledge of airfield layout	*
KFAM-801	General ATC knowledge	*
KFAM-802	Local area/Airfield specific knowledge	*
KFAM-803	Emergency/Safety knowledge	*
KFAM-804	Weather knowledge	*
KFAM-805	Tower Equipment	*
KFAM-806	Airfield lighting	•
KFAM-807	Strip marking	*
KFAM-808	Radar equipment	*
KFAM-809	Flight schedule knowledge	*
KFAM-810	Aircraft accident/incident reporting knowledge	*
KFAM-811	Terminal Instrument Procedures (TERPS)	•
KRFC-830	RFC phraseology/communication knowledge	*
KRFC-831	RFC clearance/coordination knowledge	*
KRFC-832	RFC separation knowledge	*
KRFC-833	RFC LOA and facility directives/memos/ publications	•
KTGC-840	TGC phraseology/communication knowledge	*
KTGC-841	TGC clearance/coordination knowledge	*
KTGC-842	TGC separation knowledge	*
KTGC-843	TGC LOA and facility directives/memos/ publications	*

APPENDIX G

ENLISTED ATC EVENT CONVERSION MATRIX

ENLISTED ATC EVENT CONVERSION MATRIX

1. This appendix provides the below conversion matrix of all events in this new Enlisted ATC syllabus as they correspond to the previous MATCO syllabus that this chapter replaced.

NEW EVENT #	GOAL	OLD EVENTS
	200 LEVEL EVENTS	
BTC-200YR	Operate fixed control tower equipment.	SYS-220
BTC-201R	Operate Expeditionary Control Tower (AN/TSQ-120) and associated equipment.	SYS-222
BTC-202R	Operate Remote Landing Site Tower (AN/TSQ-216) and associated equipment.	SYS-223
BTC-203	Perform the duties of a Tower Flight Data Controller.	OPS-270
BTC-204	Perform the duties of a Clearance Delivery Controller.	OPS-271
BTC-205	Perform duties of a Tower Ground Controller.	OPS-272
BTC-206	Conduct launches and recoveries in EMCON conditions.	OPS-275
BTC-207EYR	Qualify as a Tower Flight Data Controller.	CK-280
BTC-208EYR	Qualify as a Clearance Delivery Controller.	CK-281
BTC-209EYR	Qualify as a Tower Ground Controller.	CK-282
BRC-220RY	Operate fixed radar equipment.	SYS-221
BRC-221R	Configure the Control and Communication Subsystem (AN/TSQ-131) and associated equipment for basic operation.	SYS-224
BRC-222R	*Control precision/surveillance approaches using the* simulation mode of the AN/TSQ-131.	SIM-230
BRC-223	Perform duties of a Radar Flight Data Controller.	OPS-273
BRC-224	Perform duties of a Radar Final Controller.	OPS-274
BRC-225EYR	Qualify as a Radar Flight Data Controller.	CK-283
BRC-226EYR	Qualify as a Radar Final Controller.	CK-284
DLC-230	Identify standard data link symbology.	NEW
DLC-231	Introduce data link theory.	NEW
DLC-232	Describe MACCS TADIL interoperability.	NEW
DLC-233EYR	Qualify as a Data Link Coordinator in compliance with established evaluation criteria.	QUAL-291

NEW EVENT #	GOAL	OLD EVENTS
MMT-260	Operate communication equipment in secure and frequency agile modes (as applicable).	SYS-225
MMT-261	Construct a field expedient antenna.	SYS-226
MMT-262	Encode and decode messages.	SIM-231
MMT-263	Operate and use MMT radios and equipment.	MMT-260
MMT-264	Perform as an MMT member.	MMT-261
MMT-265	Conduct launches and recoveries in EMCON conditions.	OPS-275
MMT-266E	Qualify as an MMT member.	QUAL-290
BMT-280	Introduce two way communication with MACCS agencies.	FAM-200
BMT-281	Encode and decode messages.	SIM-231
	300 LEVEL EVENTS	
TLC-310	Perform duties of a Tower Local Controller.	OPS-370
TLC-311	Conduct launches and recoveries in EMCON conditions.	OPS-275
TLC-312EYR	Qualify as a Tower Local Controller.	CK-380
ADC-340	Control in an Arrival/Departure Control (ADC) environment using the simulation mode of the AN/TSQ-131.	SIM-331
ADC-341	Perform duties of a Radar Arrival/Departure (RATCF)Controller.	OPS-371
ADC-342YR	Qualify as an Arrival/Departure (RATCF) Controller.	CK-381
APC-350	Control in an Arrival/Departure Control (ADC) environment using the simulation mode of the AN/TSQ-131.	SIM-331
APC-351YR	Perform non-radar approach control services.	SIM-332
APC-352	Perform the duties of an Approach Controller.	OPS-372
APC-353EYR	Qualify as an Approach Controller.	CK-382
APC-354	Perform duties of a Sector Controller.	NEW
APC-355EYR	Qualify as a Sector Controller.	NEW
MMT-360	Perform as an MMT Leader.	OPS-373
MMT-361E	Qualify as an MMT Leader in a field exercise.	QUAL-391
CMT-370	Extract pertinent information from the ATO and ACO.	OPS-375
CMT-371	Conduct and ATC tactical crew brief.	OPS-374
CMT-372EYR	Perform as a Tower Supervisor.	DESG-490
CMT-373EYR	Perform as a Radar Supervisor.	DESG-493
BMT-380	Plan and develop MATCD communications interface with MACCS and external agencies.	SIM-333

NEW EVENT #	GOAL	OLD EVENTS
BMT-381	Prepare, request, and supervise an FAA flight inspection/certification.	OPS-376
BMT-382	Identify and plot air control measures on a map.	OPS-377
BMT-383	Operate MATCALS Software.	NEW
BMT-384	Explain Six Functions Marine Aviation.	NEW
BMT-385	Identify and employ MATCD equipment.	NEW
BMT-386	Introduction role, mission, organization of the MACCS.	NEW
BMT-387	Intro to TADIL.	NEW
BMT-388	Intro to MATCD site selection.	NEW
BMT-389	Conduct embarkation of MATCD equipment.	NEW
BMT-390	Understand civil/combat airspace.	NEW
BMT-391	Understand the TAGS.	NEW
BMT-392	Introduce two way communication with MACCS agencies.	FAM-200
BMT-393	Conduct ATC operations in a Nuclear, Biological, and Chemical (NBC) environment.	SIM-330
TERP-395	Introduction to TERPS.	NEW
TERP-396E	Develop Instrument Approach.	NEW
	400 LEVEL EVENTS	
BMT-480	Develop an embarkation plan for the MATCD.	OPS470
BMT-481	Perform as an MATCD NCOIC.	OPS-471
BMT-482	Perform as a MACS Operations Chief (Ops Chief).	OPS-472
BMT-483	Perform as a MATCD Watch Commander (WC).	DESG-496
BMT-484	Participate within a TACC.	NEW
BMT-485	Participate within a TAOC.	NEW
BMT-486	Participate within a DASC.	NEW
BMT-487	Participate within LAAD.	NEW
BMT-488	Participate within UAV.	NEW
CMT-470	Perform as a Control Tower Chief.	DESG-491
CMT-470	Perform as a Facility Watch Officer (FWO).	DESG-496
CMT-471	Perform as a CTO Examiner (CTOE).	DESG-492
CMT-472	Perform as a Radar Chief.	DESG-494
CMT-473	Perform as an Air Traffic Control Specialist Examiner (ATCSE).	DESG-495
CMT-475	Perform as a Training Chief.	DESG-497

NEW EVENT #	GOAL	OLD EVENTS
TERP-495E	Perform as the Terminal Instrument Procedures (TERPS) Specialist.	DESG-498
500 LEVEL EVENTS		
INST-500	Qualify as a On-The-Job Instructor (OJTI).	QUAL-596
INST-501	Qualify as a Weapons Tactics Instructor (WTI).	NEW
INST-502	Qualify as a MACS Mobile Team (MMT) Leader Instructor.	QUAL-561
600 TRACKING CODES FOR QUALIFICATIONS		
QUAL-607	Qualify as a Tower Flight Data Controller.	CK-280
QUAL-608	Qualify as a Clearance Delivery Controller.	CK-281
QUAL-609	Qualify as a Tower Ground Controller.	CK-282
QUAL-611	Qualify as a Tower Local Controller.	CK-380
QUAL-625	Qualify as a Radar Flight Data Controller.	CK-283
QUAL-626	Qualify as a Radar Final Controller.	CK-284
QUAL-642	Qualify as an Arrival/Departure (RATCF) Controller.	CK-381
QUAL-653	Qualify as an Approach Controller.	CK-382
QUAL-654	Qualify as a Sector Controller.	NEW
QUAL-661	Qualify as an MMT Leader in a field exercise.	CK-391
QUAL-666	Qualify as an MMT Member.	QUAL-290
QUAL-695	Qualify as a TERPS Specialist.	NEW
600 TRACKING CODES FOR DESIGNATIONS		
DESG-600	Designate as an OJTI.	NEW
DESG-601	Designate as a WTI.	NEW
DESG-601	Designate as a MEWTI.	NEW
DESG-602	Designate as a MMT Leader Instructor.	NEW
DESG-602	Designate as a MMT Leader Instructor.	NEW
DESG-603	Designate as a TERPS Trainer.	NEW
DESG-603	Designate as a TERPS Trainer.	NEW
DESG-670	Designate as a Tower Supervisor.	DESG-490
DESG-671	Designate as a Control Tower Chief.	DESG-491
DESG-672	Designate as a CTO Examiner (CTOE).	DESG-492
DESG-673	Designate as a Radar Supervisor.	DESG-493
DESG-674	Perform as a Radar Chief.	DESG-494
DESG-675	Designate as an ATCSE.	DESG-495

NEW EVENT #	GOAL	OLD EVENTS
DESG-676	Designate as a Facility Watch Officer (FWO).	DESG-496
DESG-677	Designate as a Training Chief.	DESG497
DESG-681	Designate as a MATCD NCOIC.	OPS-471
DESG-681	Designate as a MATCD NCOIC.	OPS-471
DESG-682	Designate as a MACS Operations Chief (Ops Chief).	OPS-472
DESG-682	Designate as a MACS Operations Chief (Ops Chief).	OPS-472
DESG-683	Designate as a Watch Commander (WC).	DESG-496
DESG-683	Designate as a Watch Commander (WC).	DESG-496
TACTICAL KNOWLEDGE EVENTS		
KFAM-700	Mission, tasks and organization of the MACS.	NA
KFAM-701	MATCD systems and support equipment.	NA
KFAM-702	Establish Tactical Landing Zone (TLZ) procedures.	NA
KFAM-703	Obtain, record, and relay a close air support brief.	NA
KFAM-704	Understand organic communications equipment.	NA
KFAM-705	Understand communications plans and orders.	NA
KFAM-706	Understand communications flow within the MACCS.	NA
KFAM-707	Understand Electronic Warfare (EW) and its effects on MATCD equipment.	NA
KFAM-708	Understand the Early Warning Control Site (EWC) and Tactical Air Operations Center (TAOC).	NA
KFAM-709	Understand role of the Short Range Air Defense (SHORAD) detachment and its integration into the MACCS (REIN).	NA
KFAM-710	Understand Forward Operating Bases (FOBs) and how the MATCD supports them.	NA
KFAM-711	Understand the development process of the Air Tasking Order (ATO)/Air Control Order (ACO).	NA
KFAM-712	Understand and be proficient to execute fundamental principles of rear area security planning.	NA
KFAM-713	Understand the site selection process for a MATCD.	NA
KFAM-714	Develop and staff a Letter of Agreement (LOA)/Letter of Instruction (LOI).	NA
KFAM-715	Staff a waiver request to required FAA regulations through chain of command/CNO.	NA
KFAM-716	Conduct an ATC tactical crew brief.	NA
KFAM 717	AN/TSQ-131 Command and Communication Subsystem.	NA

NEW EVENT #	GOAL	OLD EVENTS
KFAM 718	Operator Control Unit (OCU).	NA
KDLC-730	Understand data link theory.	NA
KDLC-731	Understand MATCALS Tactical Digital Information links (TDL)-B and -C.	NA
	NONTACTICAL KNOWLEDGE EVENTS	
KFAM-800	Memorize the airfield layout.	NA
KFAM-801	General ATC knowledge.	NA
KFAM-802	Local area/airfield specific knowledge.	NA
KFAM-803	Emergency/Safety knowledge.	NA
KFAM-804	Weather knowledge.	NA
KFAM-805	Terminal Instrument Procedures (TERPS).	NA
KFAM-806	Facility/Personnel/Operations/Training Management knowledge applied in OJT environment.	NA
KTWR-801	Tower equipment.	NA
KTWR-802	Strip marking.	NA
KTWR-803	Airfield Lighting.	NA
KTFD-820	Phraseology/Communications.	NA
KTFD-821	Clearance/coordination.	NA
KTFD-822	Letters of Agreements/Facility Directives/Facility Memos/Publications.	NA
KTGC-823	Phraseology/communications.	NA
KTGC-824	Clearance/coordination.	NA
KTGC-825	Separation.	NA
KTGC-826	Letters of Agreement and Facility Directives/ Memos/Publications.	NA
KTWR-826	Tower equipment as applied on the Tower Local Control position.	NA
KTWR-827	General ATC knowledge in a Tower Local Control environment.	NA
KTWR-828	Local area/airfield specific knowledge applied in a Tower Local Control environment.	NA
KTWR-829	Strip marking knowledge applied in a Tower Local Control environment.	NA
KTWR-830	Emergency/safety knowledge applied in a Tower Local Control environment.	NA
KTWR-831	Weather knowledge applied in a Tower Local Control environment.	NA

NEW EVENT #	GOAL	OLD EVENTS
KTWR-832	Airfield lighting knowledge applied in a Tower Local Control environment.	NA
KTLC-833	Communications in a Tower Local Control environment.	NA
KTLC-834	Clearance/coordination applied in a Tower Local Control environment.	NA
KTLC-835	Spacing/sequencing/separation applied in a Tower Local Control environment.	NA
KTLC-836	Letters of Agreement and Facility Directives/Memos/ Publications applied in a Tower Local Control environment.	NA
KRDR-800	Radar equipment.	NA
KRDR-801	Strip marking.	NA
KRDR-802	Radar equipment knowledge applied in a Radar Approach Control environment.	NA
KRDR-803	Local area/airfield specific knowledge applied in a Radar Approach Control environment.	NA
KRDR-804	General ATC knowledge applied in a Radar Approach Control environment.	NA
KRDR-805	Strip marking applied in a Radar Approach Control environment.	NA
KRDR-806	Emergency/Safety applied in a Radar Approach Control environment.	NA
KRDR-807	Weather knowledge applied in an Approach Control environment.	NA
KRFD-830	Phraseology/Communications.	NA
KRFD-831	Clearance/Coordination.	NA
KRFD-832	Letters of Agreement and Facility Directives/Memos/ Publications.	NA
KRFC-833	Phraseology/Communications.	NA
KRFC-834	Clearance/coordination.	NA
KRFC-835	Separation knowledge.	NA
KRFC-836	Letters of Agreement and Facility Directives/Memos/ Publications.	NA
KAPC-840	Advanced ATC applied in a Radar Approach Control environment.	NA
KAPC-841	Advanced airfield specific knowledge applied in a Radar Approach Control environment.	NA
KAPC-842	Non-radar knowledge applied in a Radar Approach Control environment.	NA
KAPC-843	Coordination in a Radar Approach Control environment.	NA
KAPC-844	Clearance knowledge applied in a Radar Approach Control.	NA

NEW EVENT #	GOAL	OLD EVENTS
KAPC-845	Spacing/Sequencing applied in a Radar Approach Control environment.	NA
KAPC-846	Phraseology/Communications applied in a Radar Approach Control environment.	NA
KAPC-847	Separation knowledge applied in a Radar Approach Control environment.	NA
KAPC-848	Letters of Agreement and Facility Directives/ Facility Memos/Publications as applied in a Radar Approach Control OJT environment.	NA